



# STIC EIC 2100 Search Request Form

118835

Today's Date:

4/6/04

What date would you like to use to limit the search?

Priority Date: 8/22/2000 Other:

Name Kenny LinAU 2154 Examiner # 79515Room # 5W05 Phone 305-0438Serial # 09/643473

Format for Search Results (Circle One):

☒ PAPER ☐ DISK ☐ EMAIL

Where have you searched so far?

☒ USP ☒ DWPI ☒ EPO ☒ JPO ☒ ACM ☐ IBM TDB☐ IEEE ☐ INSPEC ☐ SPI Other googleIs this a "Fast & Focused" Search Request? (Circle One) ☒ YES ☐ NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at <http://ptoweb/patents/stic/stic-tc2100.htm>.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

Network health measurement &amp; computing

① sum of unrouted permanent virtual circuits (PVC)  
calculated② sum of PVC whose cost exceeds certain <sup>efficient</sup> optimal route cost③ sum of PVC off an optimal path

Cost calculation

network routing

comparison of cost  $\leftarrow$   
to predetermined amountSTIC Searcher Carol Wang Phone 305-9129Date picked up 4-7-04 Date Completed 4-7-04

File 348:EUROPEAN PATENTS 1978-2004/Mar W04

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File 349:PCT FULLTEXT 1979-2002/UB=20040401,UT=20040325

(c) 2004 WIPO/Univentio

Set	Items	Description
S1	633595	COMPARE? ? OR COMPARING OR COMPARISON?
S2	222584	EVALUAT???? ?
S3	11198	S1:S2(3N) (COST OR COSTS OR COSTED OR COSTING? OR EXPENSE? ? OR EXPENDITURE? OR PRICE OR PRICES OR FEE OR FEES)
S4	1096423	CONNECT???? ? OR CONNECTIVIT? OR ROUTE OR ROUTES OR ROUTED OR ROUTING OR PATH? ? OR PATHWAY? ?
S5	70901	S4(3N) (NETWORK? OR NET()WORK? ? OR EXTRANET? OR INTERNET? ? OR INTRANET? OR VLAN? ? OR VPN? ? OR LAN OR LANS OR WAN OR W- ANS OR WLAN OR WLANS)
S6	83269	BASELINE? ? OR BASE()LINE? ? OR BENCHMARK? OR BENCH()MARK? ? OR YARDSTICK? OR YARD()STICK? ? OR TOUCHSTONE? OR TOUCH()ST- ONE? ? OR TEMPLATE?
S7	3051	(OPTIMAL OR OPTIMUM?) (2W)S4
S8	14	S3(25N)S7
S9	14	IDPAT (sorted in duplicate/non-duplicate order)
S10	14	IDPAT (primary/non-duplicate records only)
S11	13810	(OPTIMIS? OR OPTIMIZ? OR BEST OR EFFICIEN? OR EFFICACIOUS? OR EFFECTUAL? OR EFFECTIVE?) (2W)S4
S12	12	S3(25N)S11
S13	11	S12 NOT S10
S14	11	IDPAT (sorted in duplicate/non-duplicate order)
S15	11	IDPAT (primary/non-duplicate records only)

10/5,K/6 (Item 6 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00343475

Routing method for fast packet switching systems.  
Leitweglenkungsverfahren für schnelle Paketvermittlungssysteme.  
Procédé de routage pour systèmes de commutation rapide de paquets.

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 343611 A2 891129 (Basic)  
EP 343611 A3 910605  
EP 343611 B1 940817

APPLICATION (CC, No, Date): EP 89109293 890523;

PRIORITY (CC, No, Date): IT 8867474 880524

DESIGNATED STATES: BE; DE; FR; GB; NL; SE

INTERNATIONAL PATENT CLASS: H04L-012/56;

CITED PATENTS (EP A): EP 204959 A

CITED REFERENCES (EP A):

PROCEEDINGS OF THE INTERNATIONAL ZURICH SEMINAR ON DIGITAL  
COMMUNICATIONS, 8th - 10th March 1988, pages 207-212, IEEE, New York,  
US; G.J. ANIDO et al.: "Multi-path routing techniques for a class of  
multistage fast packet switches"  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol. COM-24, no. 1, January 1976,  
pages 43-59, New York, US; H. RUDIN: "On routing and "Delta routing": A  
taxonomy and performance comparison of techniques for packet-switched  
networks"  
IEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, vol. SAC-5, no. 8,  
October 1987, pages 1293-1301, New York, US; M. DE PRYCKER et al.:  
"Performance of a service independent switching network with  
distributed control";

ABSTRACT EP 343611 A2

A fast packet switching system comprises an interconnection network associated with a distributed control structure composed of a plurality of processing units (UC1-1 ... UC3-16) managing the routing at the virtual call level. At least some of said processing units associated each with a group of network inputs/outputs store bandwidth occupancy data relevant to the interstage links which can be reached from the inputs of said group and are included between said inputs and a central network stage where there is a maximum number of alternative paths or, respectively, bandwidth occupancy data relevant to interstage links which lead to the outputs of said group and are included between said stage and the output, said data being updated whenever a new call is routed.

When a virtual call is to be routed, the processing units associated with the input or respectively the output involved in the connection, evaluate each, on the basis of the up-to-date conditions of bandwidth occupancy and of the bandwidth requirements of the new call, a cost function of the connection along the portion of each of the possible routing paths included between the input and the stage where there is the maximum number of alternative paths, or respectively for the portion of each routing path included between such stage and the output; the results of the evaluations carried out by said units are combined together in one

of the units which determined a global cost function for the individual connection paths and forwards the call on the path presenting the minimum cost function.

ABSTRACT WORD COUNT: 260

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 891129 A2 Published application (A1with Search Report  
;A2without Search Report)  
Search Report: 910605 A3 Separate publication of the European or  
International search report  
Examination: 911211 A2 Date of filing of request for examination:  
911010  
Examination: 940112 A2 Date of despatch of first examination report:  
931125  
Grant: 940817 B1 Granted patent  
Oppn None: 950809 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPBBF1	772
CLAIMS B	(English)	EPBBF1	771
CLAIMS B	(German)	EPBBF1	702
CLAIMS B	(French)	EPBBF1	782
SPEC A	(English)	EPBBF1	2596
SPEC B	(English)	EPBBF1	2603
Total word count - document A			3368
Total word count - document B			4858
Total word count - documents A + B			8226

...SPECIFICATION the new connection.

On the contrary the present invention provides a method wherein a global **cost** function is **evaluated**, without burdening the control devices with an excessive processing load: in this way the path found is actually the **optimal path** between the network input and output.

The method provided by the invention for the routing...is applied present further advantages in addition to that deriving from the choice of the **optimum routing path** made on the basis of a global network vision. More particularly, the fact that the processing units which **evaluate** the **cost** function must control only a part of the links reduces processing times. Besides, sharing the...

...SPECIFICATION the new connection.

On the contrary the present invention provides a method wherein a global **cost** function is **evaluated**, without burdening the control devices with an excessive processing load: in this way the path found is actually the **optimal path** between the network input and output.

The method provided by the invention for the routing...is applied present further advantages in addition to that deriving from the choice of the **optimum routing path** made on the basis of a global network vision. More particularly, the fact that the processing units which **evaluate** the **cost** function must control only a part of the links reduces processing times. Besides, sharing the...

10/5,K/7 (Item 7 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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01041742 \*\*Image available\*\*

SELECTING AN OPTIMAL PATH BETWEEN A FIRST TERMINAL AND A SECOND TERMINAL

VIA A PLURALITY OF COMMUNICATION NETWORKS  
SELECTION D'UN TRAJET OPTIMAL ENTRE UN PREMIER TERMINAL ET UN SECOND  
TERMINAL VIA UNE PLURALITE DE RESEAUX DE COMMUNICATION

Patent Applicant/Assignee:

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Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200371750 A1 20030828 (WO 0371750)

Application: WO 2003JP1500 20030213 (PCT/WO JP0301500)

Priority Application: US 200279096 20020220

Designated States: CN JP

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI  
SK TR

Main International Patent Class: H04L-012/56

International Patent Class: H04L-012/28

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 6251

English Abstract

A method and system connects a first terminal via multiple networks to a second terminal. An environment description is acquired and parsed by a description parser into cost parameters using a set of rules. An objective function **evaluates** the cost parameters to determine an **optimal path** to **connect** the first terminal to the second terminal through the multiple networks using a switch. The selection of the optimal path can be done periodically during a particular application session.

French Abstract

La presente invention concerne un procede et un systeme permettant de connecter un premier terminal a un second terminal via une pluralite de reseaux. Une description d'environnement est acquise et analysee par un analyseur de description donnant des parametres de couts par utilisation d'un ensemble de regles. Une fonction d'objectif evalue les parametres de couts pour determiner un chemin optimal pour connecter le premier terminal au second terminal via les multiples reseaux par utilisation d'un commutateur. La selection du chemin optimal peut se faire periodiquement pendant une session d'application particuliere.

Legal Status (Type, Date, Text)

Publication 20030828 A1 With international search report.

Publication 20030828 A1 Before the expiration of the time limit for  
amending the claims and to be republished in the  
event of the receipt of amendments.

Fulltext Availability:

Detailed Description

Claims

English Abstract

...by a description parser into cost parameters using a set of rules. An

objective function **evaluates** the **cost** parameters to determine an **optimal path** to **connect** the first terminal to the second terminal through the multiple networks using a switch. The...

#### Detailed Description

... by a description parser into cost parameters using a set of rules. An objective function **evaluates** the **cost** parameters to determine an **optimal path** to **connect** the first terminal to the second terminal through the multiple networks using a switch. The

#### Claim

... SHIFTEU (FULF20  
PCT/JP03/01500 parsing an environment description of the plurality of networks  
into **cost** parameters;  
an **evaluator** determining an **optimal path** through the plurality of networks using an objective function and the cost parameters; and  
a...

10/5,K/8 (Item 8 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00955255 \*\*Image available\*\*

**LOOP-FREE MULTIPATH ROUTING ALGORITHM USING DISTANCE VECTORS**  
**PROCEDE DE ROUTAGE MULTICHEMIN SANS BOUCLE UTILISANT DES VECTEURS DE DISTANCE**

#### Patent Applicant/Assignee:

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#### Legal Representative:

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#### Patent and Priority Information (Country, Number, Date):

Patent: WO 200289402 A2-A3 20021107 (WO 0289402)

Application: WO 2001US51611 20011029 (PCT/WO US0151611)

Priority Application: US 2000244622 20001030

#### Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP

KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD

SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04L-012/56

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 9628

#### English Abstract

A routing methodology for constructing multiple loop-free routes within a network of nodes executing the methodology. The method is capable of generating shortest-distance routing within the network and is not subject to the counting-to-infinity problem to which conventional distance-vector routing protocols are subject. By way of example the method comprises computing link distances  $D_{ij}^{\text{sup}}$  to generate routing graph  $SG_{\text{sub}}^j$ . The nodes exchange distance and status information and upon receiving increasing distance information diffusing computations are performed. The information collected is used to maintain routing tables, from which shortest-path routes may be selected according to loop-free invariant (LFI) conditions.

#### French Abstract

L'invention concerne une methodologie de routage destinee a construire des routes multiples sans boucle a l'interieur d'un reseau de noeuds executant la methodologie. Le procede peut generer un routage de la plus courte distance a l'interieur du reseau et n'est pas sujet au probleme de comptage a l'infini auquel les protocoles classiques de routage vecteur-distance sont sujets. A titre d'exemple, le procede consiste a calculer des distances de liaison  $D_{\text{sub}}^{\text{sup}}$  pour generer un graphe de routage  $SG_{\text{sub}}^j$ . Les noeuds echantent des informations de distance et d'etat et lors de la reception des calculs diffusant des informations de distance croissantes sont effectuees. Les informations collectees sont utilisees pour actualiser des tables de routage, dans lesquelles les routes du plus court chemin peuvent etre selectionnees selon des conditions d'invariant sans boucle (LFI).

#### Legal Status (Type, Date, Text)

Publication 20021107 A2 Without international search report and to be republished upon receipt of that report.  
Examination 20030327 Request for preliminary examination prior to end of 19th month from priority date  
Search Rpt 20030821 Late publication of international search report  
Republication 20030821 A3 With international search report.

#### Fulltext Availability:

Detailed Description

#### Detailed Description

... are a function of the traffic on the link. This is particularly true when near- **optimal** delay **routing** is utilized, in which the link costs are periodically measured and reported. For these reasons, the algorithms are **compared** when multiple link- **cost** changes occur. Link costs are chosen randomly within a range and link-cost change events...  
? t10/5, k/10-12, 14

10/5, K/10 (Item 10 from file: 349)  
DIALOG(R) File 349: PCT FULLTEXT  
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00939230 \*\*Image available\*\*

#### EFFICIENT PATH LEARNING IN NETWORK

#### APPRENTISSAGE EFFICACE DE CHEMIN DANS UN RESEAU

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MATTHEWS Gary, 665 Jackson Court, Satellite Beach, FL 32937, US, US  
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Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200273354 A2-A3 20020919 (WO 0273354)  
Application: WO 2002US7255 20020311 (PCT/WO US0207255)  
Priority Application: US 2001808635 20010314

Designated States: AE AG AL AU BA BB BG BR BZ CA CN CO CR CU CZ DM DZ EC EE

GD GE HR HU ID IL IN IS JP KR LC LK LR LT LV MA MG MK MN MX MZ NO NZ OM

PH PL RO RU SG SI SK TN TR TT TZ UA US UZ VN YU ZA

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04L-012/56

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 11710

English Abstract

The present invention relates to a network nodes that are interconnected by communication links. Each node is capable of determining communication paths or routes from itself to as many other nodes as possible, either directly or relaying through other nodes, in order to complete the network. These paths are evaluated as new information concerning a route is generated, according to selected criteria, so that the best paths are identified, remembered and used when communication is performed. This invention is concerned with the determination of best paths through a network and the maintenance of these paths as communication conditions and node population changes.

French Abstract

L'invention concerne des noeuds de reseau qui sont interconnectes par des liaisons de communication. Chaque noeud est capable de determiner des chemins ou trajets de communication, de lui-meme vers le plus grand nombre possible de noeuds, soit directement soit par relais au moyen d'autres noeuds, pour parfaire le reseau. Ces chemins sont evalues a mesure que de nouvelles informations relatives a un trajet sont produites, selon des criteres selectionnees en vue d'identifier les meilleurs chemins, de les memoriser et de les utiliser lors de l'etablissement ulterieur de communications. L'invention vise a determiner les meilleurs chemins a travers un reseau, et a maintenir ces chemins au fil des changements de conditions de communication et de population de noeuds.

Legal Status (Type, Date, Text)

Publication 20020919 A2 Without international search report and to be republished upon receipt of that report.

Examination 20030306 Request for preliminary examination prior to end of 19th month from priority date

Search Rpt 20030530 Late publication of international search report

Republication 20030530 A3 With international search report.



Fulltext Availability:  
Detailed Description

Detailed Description

... destination in a store-and-forward packet network is required in order to select the **optimum path** for a message through the network.  
**Evaluation** of the network **cost** must be accomplished in a relatively simple manner in order to create a practical network...

10/5,K/11 (Item 11 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00880970 \*\*Image available\*\*

ON-LINE INTERACTIVE TRAVEL BOOKING

SYSTEME INTERACTIF DE RESERVATION DE VOYAGE EN LIGNE

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200215064 A2-A3 20020221 (WO 0215064)

Application: WO 2001GB3479 20010802 (PCT/WO GB0103479)

Priority Application: GB 200019955 20000814

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD  
SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/60

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8485

English Abstract

An on-line travel booking system includes a visual reference data afield, for example a world map. The user can click on destination or departure points, and drill down to more detailed maps. Having selected one or more legs to the journey, the user can access real-time price and availability data and can obtain a display of all alternative travel options, which can be bound by predetermined customer preferences. The system can provide alternative routes and/or automatic route selection as appropriate. In addition the system allows the user to access peripheral information relating to travel between route points or the route points themselves on-line simply by clicking on the relevant point in the visual data reference field.

French Abstract

L'invention concerne un systeme interactif de reservation de voyages en ligne. Ce systeme comprend un champ de donnees de references visuelles, par exemple, la carte du monde. L'utilisateur peut cliquer sur un point de destination ou de depart, et acceder, en mode descendant, a des cartes plus detaillees. Apres avoir selectionne un ou plusieurs trajets, l'utilisateur peut avoir acces aux prix en temps reel et aux donnees relatives a la disponibilite, et peut afficher toutes les options de voyage possibles, qui peuvent etre liees par des preferences de clients predeterminees. Ce systeme peut proposer d'autres itineraires et/ou une selection automatique d'itineraires selon le cas. En outre, ce systeme permet a l'utilisateur d'avoir acces en ligne aux informations peripheriques concernant le voyage entre des points du trajet ou les points eux-memes, en cliquant simplement sur le point concerne dans le champ de reference de donnees visuelles.

Legal Status (Type, Date, Text)

Publication 20020221 A2 Without international search report and to be republished upon receipt of that report.  
Examination 20020510 Request for preliminary examination prior to end of 19th month from priority date  
Search Rpt 20020510 Late publication of international search report  
Republication 20020510 A3 With international search report.

Fulltext Availability:  
Detailed Description

Detailed Description

... shown at 102. The arrangement gives instant access to current availability and the ability to **compare** different classes, **prices**, routes and rules such that the user may select the **optimum** available **route** rather than simply viewing the seat that they are particularly interested in. In addition, this...

10/5,K/12 (Item 12 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00836174 \*\*Image available\*\*

METHOD AND SYSTEM FOR CONTROLLING DATA TRAFFIC IN A NETWORK

PROCEDE ET SYSTEME SERVANT A CONTROLER LE TRAFIC DE DONNEES DANS UN RESEAU

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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KOHLHAAS Ute, Adalbertstrasse 65, 52062 Aachen, DE, DE (Residence), DE (Nationality), (Designated only for: US)

TRAN-GIA Phuoc, Josef-Seitz-Strasse 49, 97076 Wurzburg, DE, DE (Residence), DE (Nationality), (Designated only for: US)

Legal Representative:

SCHMIDT Steffen (agent), Wuesthoff & Wuesthoff, Patent- und Rechtsanwalte, Schweigerstr. 2, 81541 Munchen, DE,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200169866 A1 20010920 (WO 0169866)

Application: WO 2001EP2965 20010315 (PCT/WO EP0102965)

Priority Application: WO 2000EP2289 20000315

Designated States: AU BR CA CN IL IN JP KR MX NO SG US ZA  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
Main International Patent Class: H04L-012/56  
Publication Language: English  
Filing Language: English  
Fulltext Availability:  
    Detailed Description  
    Claims  
Fulltext Word Count: 11336

#### English Abstract

Touting is one of the key issues in networks for communication of data. Conventionally, the optimization of the routing for a particular network is achieved by improving/changing/expanding the routing protocol. In order to optimize the routing of data networks without varying existing routing protocols, the present invention provides a method and a system for optimizing the routing of data to be communicated in a network. In particular, the invention achieves an improved control for routing data traffic in a network by a minimization of link costs between nodes of the network.

#### French Abstract

L'acheminement presente une importance de premier ordre dans des reseaux servant a communiquer des donnees. On optimise habituellement l'acheminement sur un reseau determine par amelioration/modification/expansion du protocole d'acheminement. L'invention concerne un procede et un systeme servant a optimiser l'acheminement de donnees dans des reseaux sans modifier les protocoles d'acheminement existants. Elle concerne, en particulier, l'amelioration du controle de l'acheminement du trafic de donnees dans un reseau par limitation au strict minimum des couts des liaisons entre les noeuds du reseau.

#### Legal Status (Type, Date, Text)

Publication 20010920 A1 With international search report.  
Publication 20010920 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.  
Examination 20011220 Request for preliminary examination prior to end of 19th month from priority date

#### Fulltext Availability:

Detailed Description  
Claims

#### Detailed Description

... possible that a data path of the selected data paths having a sum of link **costs** being larger **compared** to sums of link costs for remaining data paths can be selected as the **optimum** data **path** .

It is preferred to define cost constraints for all of the selected data paths other...

#### Claim

... and/or  
- a data path of the selected data paths having a sum of link **costs** being larger **compared** to sums of link costs for remaining data paths is selected as the **optimum** data **path** .

21 Method according to claim 19 or 20, wherein  
- cost constraints are defined for all...

10/5,K/14 (Item 14 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00400924 \*\*Image available\*\*

**ALLOCATING COMMUNICATION TRAFFIC**

**ATTRIBUTION DE TRAFIC DE TELECOMMUNICATION**

Patent Applicant/Assignee:

BRITISH TELECOMMUNICATIONS PLC,  
JOHNSON David,

Inventor(s):

JOHNSON David,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9741668 A1 19971106

Application: WO 97GB1125 19970423 (PCT/WO GB9701125)

Priority Application: GB 968816 19960430

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW

MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN GH KE LS

MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE

IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: H04L-012/56

International Patent Class: H04Q-03:00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 4138

**English Abstract**

Communication traffic is allocated through a network of interconnected nodes (103). A communication path may be established between terminals (101) via a plurality of routes. Parameters are processed for portions of a set of potential routes to determine a notional cost of using each of these routes. An optimal level of traffic is identified for each route portion and a parameter (such as notional route length) is adjusted to make the use of said route more costly if the traffic for that portion exceeds said notional value and, in addition, if said traffic for said portion falls below said **optimum** value. A **route** is then selected with reference to route **cost comparisons**.

**French Abstract**

Le trafic de telecommunication est attribue par un reseau de noeuds interconnectes (103). Un trajet de communication peut etre etabli entre des terminaux (101) via une pluralite de voies d'acheminement. Les parametres sont traites pour des parties d'un ensemble de voies d'acheminement potentielles, de facon a determiner un cout theorique de l'utilisation de chacune de ces voies. Un niveau optimal de trafic est identifie pour chaque partie de la voie d'acheminement et un parametre (tel qu'une longueur de route theorique) est regle de facon a rendre l'utilisation de ladite voie plus couteuse si, dans cette partie, le trafic depasse ladite valeur theorique ou tombe en dessous de ladite valeur optimale. Une voie d'acheminement est ensuite selectionnee par reference aux comparaisons portant sur le cout d'exploitation des voies.

**English Abstract**

...said notional value and, in addition, if said traffic for said portion falls below said **optimum** value. A **route** is then selected with reference to route **cost comparisons**.

?

15/5,K/1 (Item 1 from file: 348)  
DIALOG(R) File 348:EUROPEAN PATENTS  
(c) 2004 European Patent Office. All rts. reserv.

00893261

Device for providing a cost-optimized telecommunication  
Vorrichtung zur Ermöglichung einer kostenoptimierten Telekommunikation  
Dispositif permettant l'optimisation du cout de telecommunication  
PATENT ASSIGNEE:

Triple I GmbH fur technische Kommunikationsintegration, (1937390),  
Andernacher Str. 6a, D-90411 Nurnberg, (DE), (Applicant designated  
States: all)

INVENTOR:

The inventor has agreed to waive his entitlement to designation.

LEGAL REPRESENTATIVE:

Matschkur, Lindner Blaumeier Patent- und Rechtsanwälte (100486),  
Dr.-Kurt-Schumacher-Strasse 23, 90402 Nurnberg, (DE)

PATENT (CC, No, Kind, Date): EP 817458 A2 980107 (Basic)  
EP 817458 A3 990922

APPLICATION (CC, No, Date): EP 97111316 970704;

PRIORITY (CC, No, Date): DE 19627287 960706

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU;  
MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: H04M-015/00; H04L-012/00

ABSTRACT EP 817458 A2 (Translated)

Telecommunications cost optimisation device

The telecommunications cost optimisation device uses a  
telecommunications device (3) which can be operated via a number of  
alternate telecommunications networks (GSM, ISDN), selected in dependence  
on the cost of the respective connection paths.

The telecommunications device is coupled to a network selection device  
(1) **evaluating** the network specific **cost** parameters for each network  
to select the most cost- **effective connection path** .

TRANSLATED ABSTRACT WORD COUNT: 64

ABSTRACT EP 817458 A2

Telecommunications cost optimisation device

The telecommunications cost optimisation device uses a  
telecommunications device (3) which can be operated via a number of  
alternate telecommunications networks (GSM, ISDN), selected in dependence  
on the cost of the respective connection paths.

The telecommunications device is coupled to a network selection device  
(1) **evaluating** the network specific **cost** parameters for each network  
to select the most cost- **effective connection path** .

ABSTRACT EP 817458 A2

Vorrichtung zur Ermöglichung einer kostenoptimierten Telekommunikation  
unter Verwendung einer Telekommunikationsvorrichtung und eines oder  
mehrerer Telekommunikationsnetze, wobei mehrere unterschiedliche  
Telekommunikationsnetze zur Verfugung stehen, die, gegebenenfalls in  
Verbindung miteinander, dabei einen Kommunikationspfad bildend, im Rahmen  
der Telekommunikation nutzbar sind, wobei die mit der  
Telekommunikationsvorrichtung kommunizierende Vorrichtung uber  
Zugangsmittel zu mehreren unterschiedlichen Netzen verfugt und ein Mittel  
zur Ermittlung und Anwahl desjenigen Telekommunikationsnetzes oder  
Kommunikationspfades aufweist, das oder der hinsichtlich der gegebenen  
Kommunikationskosten im Zeitpunkt des Eingangs der von der  
Telekommunikationsvorrichtung gelieferten Anwahlsignale optimiert ist,  
wobei die Ermittlung in Abhangigkeit netzspezifischer Kostenparameter  
erfolgt.

ABSTRACT WORD COUNT: 91

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Withdrawal: 010214 A2 Date application deemed withdrawn: 20000323

Assignee: 20000315 A2 Transfer of rights to new applicant: Deutsche  
Telekom AG (1891494) Friedrich-Ebert-Allee 140

53113 Bonn DE

Application: 980107 A2 Published application (Alwith Search Report  
;A2without Search Report)

Search Report: 990922 A3 Separate publication of the search report  
LANGUAGE (Publication,Procedural,Application): German; German; German  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(German)	9802	622
SPEC A	(German)	9802	2680
Total word count - document A			3302
Total word count - document B			0
Total word count - documents A + B			3302

...ABSTRACT the respective connection paths.

The telecommunications device is coupled to a network selection device  
(1) **evaluating** the network specific **cost** parameters for each network  
to select the most cost- **effective connection path** .

...ABSTRACT the respective connection paths.

The telecommunications device is coupled to a network selection device  
(1) **evaluating** the network specific **cost** parameters for each network  
to select the most cost- **effective connection path** .

15/5,K/3 (Item 3 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00335722

**Method and apparatus for processing a database**

**Verfahren und Vorrichtung zur Datenbankverarbeitung**

**Methode et dispositif de traitement d'une base de donnees**

PATENT ASSIGNEE:

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INVENTOR:

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Ohmachi, Kazuhiko, 21-1-2, Takaishi-5-chome, Asao-ku Kawasaki-shi, (JP)

LEGAL REPRESENTATIVE:

Strehl Schubel-Hopf Groening & Partner (100941), Maximilianstrasse 54,  
80538 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 326927 A2 890809 (Basic)  
EP 326927 A3 921007  
EP 326927 B1 961106

APPLICATION (CC, No, Date): EP 89101283 890125;

PRIORITY (CC, No, Date): JP 8817071 880129

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-017/30;

CITED REFERENCES (EP A):

IBM TECHNICAL DISCLOSURE BULLETIN. vol. 30, no. 9, February 1988, NEW  
YORK US pages 420 - 421; 'ACCESS PATH SELECTION IN RELATIONAL DATABASE  
SYSTEMS'

IBM TECHNICAL DISCLOSURE BULLETIN. vol. 31, no. 2, July 1988, NEW YORK US  
pages 249 - 252; 'DYNAMIC ACCESS PATH DETERMINATION FOR TUPLE  
SELECTION'

PROCEEDINGS ACM-SIGMOD CONFERENCE 1979, pages 23 - 34; P. G. SELINGER ET  
AL: 'Access Path Selection in a Relational Database Management System';

ABSTRACT EP 326927 A2

A method for processing a database for analyzing a query to the  
database from a user to determine an internal processing procedure  
therefor and executing it (910) comprises the steps of preparing single  
or a plurality of internal processing procedures based on analysis result  
of the query including a variable inputted in a preprocess step and  
statistical information of a database system (940), selecting an optimum  
one of the internal processing procedures based on a value substituted  
for the variable of the query in a query execution stage and the  
statistical information of the database system (970), and executing the

query in accordance with the selected internal processing procedure  
(980). (see image in original document)  
ABSTRACT WORD COUNT: 119

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 890809 A2 Published application (Alwith Search Report  
;A2without Search Report)  
Examination: 910206 A2 Date of filing of request for examination:  
901212  
Search Report: 921007 A3 Separate publication of the European or  
International search report  
Grant: 961106 B1 Granted patent  
Oppn None: 971029 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPAB96	469
CLAIMS B	(German)	EPAB96	436
CLAIMS B	(French)	EPAB96	541
SPEC B	(English)	EPAB96	4747
Total word count - document A			0
Total word count - document B			6193
Total word count - documents A + B			6193

...SPECIFICATION expressions appearing by the query

(3) Access path prune-down step 930 ... Pruning down of  
**effective** access **path** candidates based on the predetermined rule

(4) Processing procedure generation step 940 ... **Cost** **evaluation**  
such as number of times of input/output and CPU processing time, and  
generation of...

15/5,K/5 (Item 5 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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01074947 \*\*Image available\*\*

METHOD TO PROVIDE EFFECTIVE CONNECTION GROOMING IN PNNI

PROCEDE D'ETABLISSEMENT EFFICACE DE CONNEXION DANS LE PROTOCOLE PNNI

Patent Applicant/Assignee:

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Legal Representative:

MALLIE Michael J (et al) (agent), Blakely, Sokoloff, Taylor & Zafman LLP,  
7th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 2003105424 A1 20031218 (WO 03105424)

Application: WO 2003US8785 20030320 (PCT/WO US0308785)

Priority Application: US 2002171308 20020611

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO  
RU SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW  
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE  
SI SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04L-012/56

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description  
Claims  
Fulltext Word Count: 5621

#### English Abstract

A method to provide actual network connection routing cost for use in connection grooming is disclosed for one embodiment. A setup message is transmitted from a source network node, through one or more intermediate nodes, to a destination node. A connect message, in acknowledgement of the setup message is transmitted from the destination node, through the one or more intermediate nodes, to the source node to establish a network connection. The connect message includes an actual routing cost field. For one embodiment, an actual routing cost field is carried in a generic application transport (GAT) information element (IE) of a PNNI CONNECT message. The actual routing cost field is updated at every node as each link is traversed from the destination node to the source node. The accumulated routing cost in the GAT IE represents the actual routing cost of the SPVC, which the source node uses for connection grooming.

#### French Abstract

Cette invention concerne, dans un mode de realisation, un procede permettant d'obtenir un cout reel d'acheminement de connexion de reseau utilise lors de l'etablissement d'une connexion. Un message d'initialisation est envoye a partir d'un noeud de reseau source, par un ou plusieurs noeud intermediaires, a un noeud destinataire. Un message de connexion, en reponse au message d'initialisation, est envoye du noeud destinataire, par un ou plusieurs noeuds intermediaires, au noeud source afin qu'une connexion de reseau soit etablie. Le message de connexion comprend un champ consacre au cout reel d'acheminement. Dans un mode de realisation, un champ consacre au cout reel d'acheminement est integre dans un element d'information de transport d'application generique d'un message de connexion au protocole PNNI. Le champ consacre au cout reel d'acheminement est mis a jour au niveau de chaque noeud lorsque chacune des liaisons est empruntee du noeud destinataire au noeud source. Le cout d'acheminement accumule dans l'element d'information de transport d'application generique represente le cout reel d'acheminement du circuit SPVC que le noeud source utilise pour l'etablissement de la connexion.

Legal Status (Type, Date, Text)

Publication 20031218 A1 With international search report.

Examination 20040325 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:  
Detailed Description

#### Detailed Description

... to the actual cost of the SPVC. The actual cost may now be used for **efficient connection** grooming. During grooming, the source node will be **comparing** the actual **cost** of the SPVC rather than the cost perceived by the source node. In the multi...

15/5,K/6 (Item 6 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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01025725 \*\*Image available\*\*

**SYSTEM AND METHOD FOR MANAGING INTERCONNECT CARRIER ROUTING**  
**SYSTEME ET PROCEDE PERMETTANT DE GERER L'ACHEMINEMENT D'APPELS**  
**D'INTERCONNEXION ENTRE DES ENTREPRISES DE TELECOMMUNICATION**

Patent Applicant/Assignee:

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YAZDANPANAH Amir, 4935 Massachusetts Avenue, NW, Washington, DC 20016, US



HEKMAT Hormoz, 8045 Quarry Ridge Way, Bethesda, MD 20817, US,

Legal Representative:

GOTTS Lawrence J (et al) (agent), Shaw Pittman, 1650 Tysons Boulevard,  
McLean, VA 22102-4859, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200355235 A2-A3 20030703 (WO 0355235)

Application: WO 2002US40345 20021218 (PCT/WO US02040345)

Priority Application: US 2001341230 20011220; US 2002320616 20021217

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP

KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SC

SD SE SG SK SL TJ TM TR TT TZ UA UG UZ VC VN YU ZA ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SI SK  
TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04M-015/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 12883

English Abstract

A system and method for managing a carrier's interconnect traffic across a telecommunications network, the method involving receiving cost and routing rules from the carrier, gathering performance data corresponding to the interconnect traffic, applying the cost and routing rules to the performance data to determine a first impact on the interconnect traffic, receiving superseding routing rules from the carrier, automatically calculating proposed changes in network routing based on the superseding routing rules and the first impact, and presenting the proposed changes to the carrier.

French Abstract

La presente invention se rapporte a un systeme et a un procede de gestion du trafic d'interconnexion entre entreprises de telecommunication a travers un reseau de telecommunication. Le procede consiste a recevoir des regles de cout et d'acheminement de la part de l'entreprise de telecommunication, a rassembler des donnees de performance correspondant au trafic d'interconnexion, a appliquer ces regles de cout et d'acheminement aux donnees de performance de maniere a determiner un premier impact sur le trafic d'interconnexion, a recevoir des regles d'acheminement de remplacement de la part de l'entreprise de telecommunication, a calculer automatiquement les changements proposes dans l'acheminement sur le reseau en fonction de ces regles d'acheminement de remplacement et du premier impact, et a presenter les changements proposes a l'entreprise de telecommunication.

Legal Status (Type, Date, Text)

Publication 20030703 A2 Without international search report and to be  
republished upon receipt of that report.

Search Rpt 20040219 Late publication of international search report

Republication 20040219 A3 With international search report.

Examination 20040325 Request for preliminary examination prior to end of  
19th month from priority date

Fulltext Availability:

Detailed Description

Detailed Description

... of these critical business decisions include trading and negotiating with customers and vendors, monitoring traffic, costs, and revenues, evaluating trading (buy and sell) opportunities, determining optimized routing, and tuning network routing and bandwidth.

[0006] As demonstrated in Figure 1, with the deregulation...

15/5,K/7 (Item 7 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00871954 \*\*Image available\*\*

**A FREQUENCY-DOMAIN EQUALIZER FOR TERRESTRIAL DIGITAL TV RECEPTION.  
EGALISEUR DU DOMAINE DES FREQUENCES DESTINE A LA RECEPTION DE LA TELEVISION  
NUMERIQUE TERRESTRE**

Patent Applicant/Assignee:

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Eindhoven, NL, NL (Residence), NL (Nationality)

Inventor(s):

DAGNACHEW Birru, Prof. Holstlaan 6, NL-5656 AA Eindhoven, NL,

Legal Representative:

GROENENDAAL Antonius W M (agent), Internationaal Octrooibureau B.V.,  
Prof. Holstlaan 6, NL-5656 AA Eindhoven, NL,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200205505 A2-A3 20020117 (WO 0205505)

Application: WO 2001EP7244 20010627 (PCT/WO EP0107244)

Priority Application: US 2000217143 20000707; US 2001840200 20010423

Designated States: CN JP KR

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Main International Patent Class: H04L-027/02

International Patent Class: H04L-025/03

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 6420

**English Abstract**

A single integrated circuit multi-standard demodulator includes an adaptive inverse channel estimator for frequency domain equalization which employs a recursive least square cost function in estimating the inverse channel from the received signal and an error estimate. Utilizing a diagonal correlation matrix, the solution to may be determined utilizing fewer computational resources than required by conventional frequency domain equalizers, shifting from a computational intensive to memory intensive implementation. The memory requirement is fully satisfied by memory available within conventional OFDM decoders, and the necessary computational resources may be readily mapped to the resources available within such decoders, improving integrated circuit cost-effectiveness of the multi-standard demodulator.

**French Abstract**

La presente invention concerne un demodulateur multistandard a circuit integre unique comprenant un estimateur de voie dynamique inverse d'egalisation du domaine des frequences qui utilise une fonction recursive de cout par moindres carres pour estimer la voie inverse a celle du signal recu et effectuer une estimation d'erreur. A l'aide d'une matrice de correlation diagonale, on parvient a determiner une solution avec un nombre de ressources computationnelles inferieur a celui qui est utilise par les egaliseurs du domaine des frequences traditionnels, ce que l'on obtient en passant d'une mise en oeuvre exigeante en termes computationnels a une mise en oeuvre exigeante en termes de memoire. Les exigences de memoire sont entierement satisfaites par la memoire disponible dans les decodeurs a multiplexage frequentiel optique traditionnels, et les ressources computationnelles necessaires peuvent facilement etre mises en correspondance avec les ressources disponibles dans ces decodeurs, ce qui permet d'ameliorer le rapport cout-efficacite du modulateur multistandard de l'invention.

Legal Status (Type, Date, Text)

Publication 20020117 A2 Without international search report and to be

republished upon receipt of that report.  
Search Rpt 20020704 Late publication of international search report  
Republication 20020704 A3 With international search report.  
Republication 20020704 A3 Before the expiration of the time limit for  
amending the claims and to be republished in the  
event of the receipt of amendments.

Fulltext Availability:  
Detailed Description

#### Detailed Description

... of a frequency domain equalizer for single carrier systems depends upon integrated circuit area cost- **effectiveness** and multi- **path** performance compared to a time domain alternative. For a multi-standard demodulator which includes COMM, the frequency domain equalizer results in a **cost** -effective solution **compared** to a time domain equalizer. The frequency domain equalizer of the present invention also exhibited...

15/5,K/8 (Item 8 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00766328 \*\*Image available\*\*

#### ON-DEMAND OVERLAY ROUTING FOR COMPUTER-BASED COMMUNICATION NETWORKS ROUTAGE PAR RECOUVREMENT SUR DEMANDE POUR RESEAUX DE COMMUNICATIONS INFORMATISES

Patent Applicant/Assignee:

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94105, US, US (Residence), US (Nationality)

Inventor(s):

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Legal Representative:

WEAVER Jeffrey K (agent), Beyer Weaver & Thomas, LLP, P.O. Box 130,  
Mountain View, CA 94042-0130, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200079730 A2-A3 20001228 (WO 0079730)

Application: WO 2000US16732 20000616 (PCT/WO US0016732)

Priority Application: US 99336487 19990618

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE

DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC

LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK

SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04L-012/56

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8642

#### English Abstract

Methods and apparatus are disclosed for dynamically discovering and utilizing an optimized network path through overlay routing for the transmission of data. A determination whether to use a default network path or to instead use an alternate data forwarding path through one or more overlay nodes is based on real-time measurement of costs associated with the alternative paths, in response to a user request for transmission of message data to a destination on the network. Cost metrics include delay, throughput, jitter, loss, and security. The system chooses the best path among the default forwarding path and the multiple alternate forwarding paths, and implements appropriate control actions to force data transmission along the chosen path. No modification of established network communication protocols is required.

## French Abstract

La presente invention concerne des procedes et un appareil permettant de decouvrir et d'utiliser de maniere dynamique une voie de reseau optimisee au moyen du routage par recouvrement pour l'emission de donnees.

Determiner s'il faut utiliser une voie de reseau par default ou une voie d'acheminement de donnees de remplacement dans un ou plusieurs noeuds de recouvrement depend du calcul en temps reel des couts associes aux voies de remplacement, en reponse a une demande d'utilisateur de transmettre des donnees de messages a une destination donnees dans le reseau. Le calcul des couts implique le retard, le debit, la gigue, la perte et la securite. Le systeme choisit la meilleur voie parmi la voie d'acheminement par default et les voies d'acheminement de remplacement multiples, et execute les actions de commande appropriees pour que la transmission de donnees se fasse dans la voie choisie. En l'occurrence, aucune modification de protocoles de communications de reseau n'est necessaire.

## Legal Status (Type, Date, Text)

Publication 20001228 A2 Without international search report and to be republished upon receipt of that report.  
Examination 20010607 Request for preliminary examination prior to end of 19th month from priority date  
Search Rpt 20010712 Late publication of international search report  
Republication 20010712 A3 With international search report.

## Fulltext Availability:

Detailed Description  
Claims

## Detailed Description

... In a preferred embodiment, those intermediate nodes are referred to as an "overlay network". An **optimized path** for sending the requested transmission is ultimately selected by **comparing** the default **cost** against the alternative costs.

Further, the present invention discloses steps and means for transmitting messages along an **optimized non-default path** passing through overlay nodes, including forwarding of the message from the source to a first...

## Claim

- ... passing  
through one or more intermediate nodes not on the default path;  
c) determining the **optimized path** by **comparing** the default **cost** and the alternative cost.
- 2 The method of claim 1, wherein the steps of the...
- ...or more intermediate nodes not on the default path; and wherein step (c) further includes **comparing** the default **cost** and the set of alternative costs.
- 22
- . The method of claim 14, further including the steps of.  
determining a pruned topology representing potentially **optimizing connections** between the intermediate nodes for use in the alternative paths, and using the pruned topology...
- ...through one or more intermediate nodes not on the default path;  
c) determining the **optimized path** by **comparing** the default **cost** and the alternative cost.
- 26 The method of claim 25, wherein the communications network is connectionoriented.
- 27 An overlay network apparatus for determining an **optimized path** for transmitting a message from a source to a destination within a

packet-switched computer...

15/5,K/9 (Item 9 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00512987 \*\*Image available\*\*

**REMOTE COMPUTER COMMUNICATION  
COMMUNICATIONS AVEC UN ORDINATEUR DISTANT**

Patent Applicant/Assignee:

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WEST Julian Wray,  
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MULLEN Jeffrey M,  
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Inventor(s):

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MULLEN Jeffrey M,  
CURRIER Ronald L Jr,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9944339 A2 19990902  
Application: WO 99US4156 19990225 (PCT/WO US9904156)  
Priority Application: US 9830647 19980225

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES  
FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV  
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG  
US UZ VN YU ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM  
AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM  
GA GN GW ML MR NE SN TD TG

Main International Patent Class: H04L-012/28

Publication Language: English

Fulltext Availability:

Detailed Description  
Claims

Fulltext Word Count: 20510

**English Abstract**

Software stored on a computer readable medium that causes a remote computer (100) to perform the function of establishing a data communication path to a computing resource, such as a computer network. Remote computer can establish a variety of communication paths to a local computer (110). In addition, alternative paths of communication paths can be established such as directly or through the Internet.

**French Abstract**

L'utilisateur d'un ordinateur distant a generalement le choix entre plusieurs procedes d'accès et numeros de telephone au moyen desquels il peut connecter son ordinateur distant a un ordinateur local ou a un reseau local. L'utilisateur distant rencontre en general plusieurs problemes. Premierement, celui de connaitre les numeros et les procedes d'accès possibles et de connaitre egalement leur cout d'utilisation. Le premier probleme est exacerbe par le grand nombre de points d'accès disponibles, les changements des numeros d'accès telephoniques, les changements dans les delais d'accès par reseau et par telephone, ainsi que par les changements dans la qualite des services fournis par differents fournisseurs de services. La distribution, le stockage et la recherche d'un annuaire exhaustif avec les numeros d'accès et les couts associes seraient en general prohibitifs sur les ordinateurs distants comportant un stockage et une capacite de traitement limites, tels que les ordinateurs portables generalement utilises par les utilisateurs mobiles. Par ailleurs, si l'utilisateur ne reussit pas a etabli la voie de communication desiree, plusieurs lignes d'action s'offrent a lui. Deuxiemement, le choix de la ligne d'action appropriee qui, en general,

necessite le diagnostic du probleme rencontre lors de l'etablissement de la liaison desiree.

Fulltext Availability:

Detailed Description

Claims

#### Detailed Description

... method also includes selecting a  
15 best one of the access paths according to the **evaluated**  
**cost** functions for the access paths, for example  
selecting the lowest cost path, and then initiating  
establishment of communication over the selected **best**  
access **path** . The access path can feature a dialed  
20 telephone channel to a telephone access number...for  
5 communicating with the computing resource.

The method can also feature selecting a next **best**  
access **path** according to the **evaluated cost** functions for  
the access paths, if communication over the selected **best**  
access **path** is not established. If communication over an  
access path cannot be successfully established, the  
method...

#### Claim

... claim 1 wherein establishing  
the data communication path further includes:  
if communication over the selected **best** access  
30 **path** is not established,  
- 67  
selecting a next one of the access paths  
based on **evaluation** of the **cost** function for the access  
paths, and  
initiating establishment of communication  
5 over the selected next...resource over that access path,  
select one of the access paths in accordance  
with the **evaluated cost** functions for the access paths,  
and  
communicate over the selected **best** access  
**path** ; and  
wherein the management computer further includes  
software for causing the management computer to accept...

15/5,K/10 (Item 10 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00431394 \*\*Image available\*\*

#### DYNAMIC RESTORATION PROCESS

#### PROCEDE DE RESTAURATION DYNAMIQUE

Patent Applicant/Assignee:

MCI COMMUNICATIONS CORPORATION,

Inventor(s):

CROSLIN William D,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9821858 A1 19980522

Application: WO 97US20939 19971114 (PCT/WO US9720939)

Priority Application: US 96749168 19961114

Designated States: CA JP MX AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT  
SE

Main International Patent Class: H04L-012/56

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 7440

English Abstract

A method and apparatus is provided for dynamically generating routes within a diverse interconnected network which may be in a state of flux. This routing process will utilize node source/target sets (102-106) and route intersection sets to reduce route generation time (110). In addition, the routing process makes route costing an integral part of the process rather than a completely predefined portion of the data fed to the process, thus eliminating the need to rebuild the data fed to the process if costs need to be dynamically adjusted. Data defining connectivity within a network is gathered from an existing data base of network interconnections (referred to here as the topology). An existing route within this topology is deemed to be non-viable due to some failure within the network. The invention will locate, if available, the optimal route around the network failure point utilizing short/long routing and route intersection sets.

#### French Abstract

L'invention porte sur un procede et un appareil servant a creer dynamiquement des voies d'acheminement a l'interieur d'un reseau interconnecte en diversite pouvant se presenter comme des flux. Le procede recourt a des ensembles de noeuds source/cibles (102-106) et a des ensembles d'intersection de voies d'acheminement pour reduire le temps (110) d'etablissement des voies. Le procede considere de plus le cout de l'acheminement comme faisant partie integrante de ce meme procede plutot que comme etant une portion entierement predefinie des donnees fournies au procede, ce qui evite de restructurer les donnees fournies au procede lorsque les couts doivent etre ajustes dynamiquement. Les donnees definissant la connectivite interne du reseau sont prises dans une base de donnees existante d'interconnexions de reseau (dites ici "topologie"). Si une voie d'acheminement existante a l'interieur de la topologie est consideree comme non viable du fait d'une defaillance affectant le reseau, l'invention localise, si elle existe, la voie optimale contournant le point de defaillance a l'aide des ensembles d'itineraires longs et courts, et des ensembles d'intersections des voies d'acheminement.

#### Fulltext Availability:

Detailed Description

#### Detailed Description

... selected. However, if the threshold is not exceeded, step 616 comes into play and this **compares** the accumulated **cost** to a current **best route** cost. If the accumulated cost does exceed the **best** current **route** cost, then the node is eliminated from routing at step 614 and the sub-process...

15/5,K/11 (Item 11 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00373512 \*\*Image available\*\*

#### EFFICIENT COMMUNICATION THROUGH NETWORKS

#### COMMUNICATIONS EFFICACES PAR RESEAUX

Patent Applicant/Assignee:

MASHINSKY Alexander,

Inventor(s):

MASHINSKY Alexander,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9714255 A2 19970417

Application: WO 96IL124 19961009 (PCT/WO IL9600124)

Priority Application: IL 115580 19951011

Designated States: AL AM AT AU BA BB BG BR BY CA CH CN CU CZ DE DK

DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV

MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US

UZ VN KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI

FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Main International Patent Class: H04M-007/10

International Patent Class: H04M-07:00; H04M-11:00; H04M-03:42

Publication Language: English  
Fulltext Availability:  
Detailed Description  
Claims  
Fulltext Word Count: 11495

#### English Abstract

A method and device that interrogates the availability of a called party before placing a communication from the calling party to the called party. A callback may be initiated so that both communications are completed simultaneously. The routing of communication may take place through any one of a number of different networks and at another time of the day, even if the caller does not otherwise have access to those networks.

#### French Abstract

Un procede et un dispositif determinant la disponibilite d'un appele avant de demander une communication entre un appelant et cet appele. Un rappel peut etre mis en place pour que les deux communications soient etablies simultanement. L'acheminement d'une communication peut se faire par l'un des divers reseaux existants et a une autre heure du jour, meme si l'appelant n'a normalement pas acces a ces reseaux.

Fulltext Availability:  
Detailed Description

#### Detailed Description

... of service to the location by the customer to help figure out the most cost **efficient route** based on history of usage. A least **cost** routing **comparison** 104 is made to determine whether the new central local node's connection to  
?



File 347:JAPIO Nov 1976-2003/Dec(Updated 040402)

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200418

(c) 2004 Thomson Derwent

Set	Items	Description
S1	672370	COMPARE? ? OR COMPARING OR COMPARISON?
S2	142085	EVALUAT???? ?
S3	5069	S1:S2(3N) (COST OR COSTS OR COSTED OR COSTING? OR EXPENSE? ? OR EXPENDITURE? OR PRICE OR PRICES OR FEE OR FEES)
S4	3884408	CONNECT???? ? OR CONNECTIVIT? OR ROUTE OR ROUTES OR ROUTED OR ROUTING OR PATH? ? OR PATHWAY? ?
S5	71211	S4(3N) (NETWORK? OR NET()WORK? ? OR EXTRANET? OR INTERNET? ? OR INTRANET? OR VLAN? ? OR VPN? ? OR LAN OR LANS OR WAN OR W- ANS OR WLAN OR WLANS)
S6	35923	BASELINE? ? OR BASE()LINE? ? OR BENCHMARK? OR BENCH()MARK? ? OR YARDSTICK? OR YARD()STICK? ? OR TOUCHSTONE? OR TOUCH()ST- ONE? ? OR TEMPLATE?
S7	3147	(OPTIMAL OR OPTIMUM?) (2W)S4
S8	11	S3 AND S7
S9	11	IDPAT (sorted in duplicate/non-duplicate order)
S10	10	IDPAT (primary/non-duplicate records only)
S11	5448	(OPTIMIS? OR OPTIMIZ? OR BEST OR EFFICIEN?) (2W)S4
S12	6	S3 AND S11
S13	5	S12 NOT S8
S14	5	IDPAT (sorted in duplicate/non-duplicate order)
S15	5	IDPAT (primary/non-duplicate records only)
S16	3145	(EFFICACIOUS? OR EFFECTUAL? OR EFFECTIVE?) (2W)S4
S17	1	S3 AND S16
S18	1	S17 NOT (S15 OR S8)

10/9/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014254218 \*\*Image available\*\*  
WPI Acc No: 2002-074918/200210  
Related WPI Acc No: 2002-225528  
XRPX Acc No: N02-055303

Optimized path determination for packet switched computer based  
communications network, by measuring cost for default path, measuring  
costs for alternative paths and determining optimum path by cost  
comparison

Patent Assignee: DIGITAL ISLAND INC (DIGI-N)  
Inventor: RICCIULLI L  
Number of Countries: 094 Number of Patents: 008  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200079730	A2	20001228	WO 2000US16732	A	20000616	200210 B
US 20020018449	A1	20020214	US 99336487	A	19990618	200214
			US 2001888966	A	20010625	
			US 2001916628	A	20010727	
AU 200056209	A	20010109	AU 200056209	A	20000616	200216
US 6275470	B1	20010814	US 99336487	A	19990618	200216
EP 1188280	A2	20020320	EP 2000941508	A	20000616	200227
			WO 2000US16732	A	20000616	
US 6473405	B2	20021029	US 99336487	A	19990618	200274
			US 2001888966	A	20010625	
JP 2003502941	W	20030121	WO 2000US16732	A	20000616	200308
			JP 2001504633	A	20000616	
US 20040022194	A1	20040205	US 2001916628	A	20010727	200416 N
			US 2003630559	A	20030730	

Priority Applications (No Type Date): US 99336487 A 19990618; US 2001888966  
A 20010625; US 2001916628 A 20010727; US 2003630559 A 20030730

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200079730	A2 E	33	H04L-012/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW				
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW				
US 20020018449	A1		H04L-012/16	Cont of application US 99336487 Cont of application US 2001888966 Cont of patent US 6275470
AU 200056209	A		H04L-012/00	Based on patent WO 200079730
US 6275470	B1		H04L-012/26	
EP 1188280	A2 E		H04L-012/56	Based on patent WO 200079730
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI				
US 6473405	B2		H04L-012/26	Cont of application US 99336487 Cont of patent US 6275470
JP 2003502941	W	39	H04L-012/56	Based on patent WO 200079730
US 20040022194	A1		H04J-003/14	Cont of application US 2001916628

Abstract (Basic): WO 200079730 A2

NOVELTY - The optimized path determination method involves  
measuring a cost for using a default path, measuring the costs for  
alternative paths and determining the optimum path by cost  
comparison .

DETAILED DESCRIPTION - The cost for the use of the default path from source to destination is measured in response to a request, and is derived by one or more existing routing mechanisms of the communications network. The costs of using alternative paths are measured for paths that pass through one or more intermediate nodes not on the default path. The cost comparisons are made between the default path cost, and the alternative path costs. INDEPENDENT CLAIMS/ are included for an overlay network apparatus for determining an optimized path, for an apparatus which conducts an electronic commerce transaction, and for a method of exchanging a message and a reply between a source and a destination.

USE - For transmitting a message from a source to a destination within a packet switched computer based communications network.

ADVANTAGE - Provides for accurate determination of an optimum transmission path for transmitting data from a source to a destination, based on cost.

DESCRIPTION OF DRAWING(S) - The figure shows a flow chart illustrating the basic steps in the optimized path determination.

User request (200)

Default path costing (210)

Comparison to threshold (215)

Measure cost on path via overlay node (220)

Evaluate additional overlay paths (225)

Select optimized path (230)

pp; 33 DwgNo 2/5

Title Terms: OPTIMUM; PATH; DETERMINE; PACKET; SWITCH; COMPUTER; BASED; COMMUNICATE; NETWORK; MEASURE; COST; DEFAULT; PATH; MEASURE; COST; ALTERNATIVE; PATH; DETERMINE; OPTIMUM; PATH; COST; COMPARE

Derwent Class: T01; W01

International Patent Class (Main): H04J-003/14; H04L-012/00; H04L-012/16; H04L-012/26; H04L-012/56

International Patent Class (Additional): G06F-015/173; H04Q-011/00

File Segment: EPI

Manual Codes (EPI/S-X): T01-N02A3B; W01-A03B; W01-A06G2

10/9/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013016554 \*\*Image available\*\*

WPI Acc No: 2000-188405/200017

XRFX Acc No: N00-139914

ISDN router for communication path selection compares fee of alternate route of newly connected other party via existing network with fee of direct path of newly connected other party

Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000032063	A	20000128	JP 98195387	A	1998071	200017 B

Priority Applications (No Type Date): JP 98195387 A 19980710

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 2000032063 A 7 H04L-012/66

Abstract (Basic): JP 2000032063 A

NOVELTY - The trunk code of ISDN number of newly connected other party is compared with trunk code of existing network relay point. If they coincide, then fee of alternate route connected to newly connected

other party via existing network, and fee of direct path connected to newly connected other party directly are **compared**. DETAILED DESCRIPTION - If **fee** of alternate route is lowered than fee of direct route, the alternate route is chosen. An INDEPENDENT CLAIM is also included for the communication path selection procedure.

USE - For **optimum** communication **path** selection to connect several networks.

ADVANTAGE - Chooses **optimum** communication **path** in terms of communication cost. DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of ISDN system with ISDN router.

Dwg.1/3

Title Terms: ISDN; ROUTER; COMMUNICATE; PATH; SELECT; COMPARE; FEE; ALTERNATE; ROUTE; NEW; CONNECT; PARTY; EXIST; NETWORK; FEE; DIRECT; PATH; NEW; CONNECT; PARTY

Derwent Class: W01

International Patent Class (Main): H04L-012/66

International Patent Class (Additional): H04L-012/02; H04L-012/14; H04L-012/28; H04L-012/46; H04M-003/00; H04M-015/16

File Segment: EPI

Manual Codes (EPI/S-X): W01-A06; W01-A06G3; W01-C06

10/9/7 (Item 7 from file: 347)

DIALOG(R)File 347:JAPIO

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06658015 \*\*Image available\*\*

WIRING OF SEMICONDUCTOR INTEGRATED CIRCUIT

PUB. NO.: 2000-243838 [JP 2000243838 A]

PUBLISHED: September 08, 2000 (20000908)

INVENTOR(s): YAMAWAKI MASAHIRO

APPLICANT(s): NEC CORP

APPL. NO.: 11-039032 [JP 9939032]

FILED: February 17, 1999 (19990217)

INTL CLASS: H01L-021/82

#### ABSTRACT

PROBLEM TO BE SOLVED: To make it possible to easily design a wiring to satisfy an antenna rule by a method wherein the wiring routes between terminals are searched on the basis of a constraint, the costs of the wiring routes are calculated on the basis of a prescribed **cost evaluation** formula and the wiring route, which is lowest in cost, is selected.

SOLUTION: In this wiring method, first, wiring lattices, wiring regions, a wiring object layer ZMAX which is used for wirings, and a **cost evaluation** formula for wiring routes are set as the initialization (step 1000). Then connection object terminals are specified (step 1010) and the allowable value of the distance between the terminals and routing point regions are set from the values which are prescribed from the viewpoint of manufacture (step 1020). The distance between the connection object terminals is calculated (step 1030) and the distance between the terminals is compared with the allowable value (step 1040). Routing points are specified (step 1050) and the wiring routes are searched (step 1060). The costs for the wiring routes are calculated, the **optimum** wiring route is selected (step 1070) and a processing is finished (step 1080). Thereby, the wiring to satisfy an antenna rule can be easily realized.

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10/9/8 (Item 8 from file: 347)  
DIALOG(R)File 347:JAPIO  
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04811173 \*\*Image available\*\*  
METHOD AND DEVICE FOR PATH CALCULATION

PUB. NO.: 07-103773 [JP 7103773 A]  
PUBLISHED: April 18, 1995 (19950418)  
INVENTOR(s): HASHIMOTO TAKEO  
NISHIMURA SHIGEKI  
NAKANO HIROYUKI  
HIRANO KAZUO  
APPLICANT(s): SUMITOMO ELECTRIC IND LTD [000213] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 05-248243 [JP 93248243]  
FILED: October 04, 1993 (19931004)  
INTL CLASS: [6] G01C-021/00; G06F-017/30  
JAPIO CLASS: 46.1 (INSTRUMENTATION -- Measurement); 26.2 (TRANSPORTATION -- Motor Vehicles); 45.4 (INFORMATION PROCESSING -- Computer Applications)  
JAPIO KEYWORD: R011 (LIQUID CRYSTALS); R108 (INFORMATION PROCESSING -- Speech Recognition & Synthesis); R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessors)

ABSTRACT

PURPOSE: To rewrite a total cost when it is smaller than an upper-limit cost in searching a calculation end link and then abort searching processing for the link of the total cost exceeding the upper-limit cost thereafter for reducing calculation time.

CONSTITUTION: An **optimum path** is calculated by setting the calculation start links to A->B and A->C and a calculation end link to B->F. A CPU reads link data including a destination B from a disk and then creates a link table and then sets the initial value of the total cost to the maximum value. When the search continues and B->F is reached, the CPU judges that the link B->F is the calculation end link and then **compares** the total **cost** with the upper-limit cost. Since the upper-limit cost initial value is infinite, the upper-limit value is rewritten to the total cost. In this manner, once the upper-limit cost is rewritten by a finite value, the search for a connection link is aborted for the link of total cost exceeding it, thus eliminating the need for meaningless search for link and hence reducing path calculation time.

10/9/9 (Item 9 from file: 347)  
DIALOG(R)File 347:JAPIO  
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03753969 \*\*Image available\*\*  
**OPTIMUM ROUTE SELECTING SYSTEM FOR FACSIMILE EQUIPMENT**

PUB. NO.: 04-119069 [JP 4119069 A]  
PUBLISHED: April 20, 1992 (19920420)  
INVENTOR(s): INOUE MASAYOSHI  
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 02-238249 [JP 90238249]  
FILED: September 07, 1990 (19900907)  
INTL CLASS: [5] H04N-001/34; H04M-011/00; H04N-001/00; H04N-001/32

JAPIO CLASS: 44.7 (COMMUNICATION -- Facsimile); 44.4 (COMMUNICATION -- Telephone)  
JOURNAL: Section: E, Section No. 1246, Vol. 16, No. 372, Pg. 115, August 11, 1992 (19920811)

#### ABSTRACT

PURPOSE: To use the most inexpensive line by letting an **optimum route** selecting part calculate communication time from the used quantity of a memory, and obtain the most inexpensive route by calculating and comparing the telephone charge of every company, and obtain and send a dial number to be sent.

CONSTITUTION: A selection processing part 22 calculates the communication fee of every company from **fee comparing** standard time calculated by a communication time calculating part 21 from the dial number of a communicating destination and the used quantity of a picture memory sent from a control part 1, installing place information 23, and air-to-ground information 24, and **compares** the **fee** of every company, and selects the most inexpensive company as the **optimum route**, and converts it into the dial number to be sent, and sends it to a dial sending part 61. The sending part 61 receives the dial number from the **optimum route** selecting part 2, and converts it into a dial signal, and sends it to a line L. Then, when it receives the answer of the remote party, it lays down a relay S 63 to a '2' side, and modulates picture data stored in the picture memory part 4 by a MODEM part 5, and sends it, and after the finish of transmission, it restores the line, and finishes the transmission.

10/9/10 (Item 10 from file: 347)  
DIALOG(R)File 347:JAPIO  
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03585337 \*\*Image available\*\*  
DATA BASE MANAGEMENT SYSTEM CONSTRUCTING SYSTEM

PUB. NO.: 03-248237 [JP 3248237 A]  
PUBLISHED: November 06, 1991 (19911106)  
INVENTOR(s): HOUCHIN TERUHISA  
APPLICANT(s): NIPPON TELEGR & TELEPH CORP <NTT> [000422] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 02-046664 [JP 9046664]  
FILED: February 26, 1990 (19900226)  
INTL CLASS: [5] G06F-012/00; G06F-009/06  
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units); 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)  
JOURNAL: Section: P, Section No. 1306, Vol. 16, No. 42, Pg. 148, January 31, 1992 (19920131)

#### ABSTRACT

PURPOSE: To easily construct a data base management system by using fundamental data base processing parts.

CONSTITUTION: A syntax analyzing parts 32 request a phrasing management parts 2 to check phrasing and use a syntax tree management parts 3 to generate a syntax tree A18. Semantic analysis parts 33 use parts 3 to acquire information from the syntax tree A18 and use schema management parts 4 to check whether information coincides with definition information of data or not. Next, parts 3 are used to generate a syntax tree B19. Optimizing parts 34 use parts 3 to acquire information from the syntax tree B19 and use access management parts 5 to **evaluate** the **cost** for data access and determine an **optimum access route**. Parts 3 are used again to

generate a syntax tree C20. Plan generating parts 35 use parts 3 to acquire information from the syntax tree C20 and use plan management parts 6 to generate a plan tree 23. The plan tree 23 is inputted to plan executing parts 36, and parts 36 request parts 6 to execute an instruction string 24 corresponding to the plan tree 23.

15/9/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014816236 \*\*Image available\*\*  
WPI Acc No: 2002-636942/200268  
XRPX Acc No: N02-503181

Efficient path learning for use in a communications network, uses nodes capable of determining communication paths or routes from themselves to as many other nodes as possible  
Patent Assignee: TELEPHONICS WIRELESS CORP (TELE-N); CHAFFEE D (CHAF-I); D'AGATI L (DAGA-I); MATTHEWS G (MATT-I)  
Inventor: CHAFFEE D; D'AGATI L; MATTHEWS G  
Number of Countries: 092 Number of Patents: 003  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200273354	A2	20020919	WO 2002US7255	A	20020311	200268 B
US 20020186665	A1	20021212	US 2001808635	A	20010314	200301
EP 1368941	A2	20031210	EP 2002719185	A	20020311	200382
			WO 2002US7255	A	20020311	

Priority Applications (No Type Date): US 2001808635 A 20010314

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200273354	A2	E 48	G06F-000/00	

Designated States (National): AE AG AL AU BA BB BG BR BZ CA CN CO CR CU CZ DM DZ EC EE GE HR HU ID IL IN IS JP KR LC LK LR LT LV MA MG MK MN MX MZ NO NZ OM PH PL RO RU SG SI SK TN TR TT TZ UA US UZ VN YU ZA

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

US 20020186665 A1 H04L-012/28

EP 1368941 A2 E H04L-012/56 Based on patent WO 200273354

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200273354 A2

NOVELTY - In a network comprising a plurality of nodes (A-N), each node includes memory and computing capability allowing it to determine communication paths or routes from itself to as many other nodes as possible, either directly or through other nodes, in order to complete the network. Paths are evaluated, according to selected criteria, as new data is generated, to identify **best paths**, which are stored and used when required.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of transmitting a communication from a source node to a destination node in a network having a plurality of nodes.

USE - For use in communication networks.

ADVANTAGE - The memory and computational power in each node permits path selection to be based on a number of parameters, **evaluating** the total **cost** of communication from source to destination, which provides significantly better results than selection based on merely minimizing the number of relays or the path delay. The use of simple software protocols for controlling message traffic, that are concise enough without adding significant overhead, allows ad hoc communications among nodes in an ad hoc wireless network without regard to the proximity of the other members of the network. Volume of information required to be stored when a new node is added is reduced, since each node is no longer required to hold information about every other node in the network.

DESCRIPTION OF DRAWING(S) - The figure is an example of paths through a network.



pp; 48 DwgNo 1/6  
Title Terms: EFFICIENCY; PATH; LEARNING; COMMUNICATE; NETWORK; NODE;  
CAPABLE; DETERMINE; COMMUNICATE; PATH; ROUTE; NODE; POSSIBILITY  
Derwent Class: T01  
International Patent Class (Main): G06F-000/00; H04L-012/28; H04L-012/56  
File Segment: EPI  
Manual Codes (EPI/S-X): T01-J16C2; T01-N02A3B

15/9/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014651090 \*\*Image available\*\*  
WPI Acc No: 2002-471794/200250  
XRPX Acc No: N02-372395

Deriving set of efficient path costs for group of nodes of data  
communication network to support quality of service over Internet  
communications according to bandwidth and delays

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC )  
Inventor: BAUER D; DAIGLE J; ILIADIS I; SCOTTON P  
Number of Countries: 097 Number of Patents: 005  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200243324	A2	20020530	WO 2001IB2078	A	20011112	200250 B
AU 200212596	A	20020603	AU 200212596	A	20011112	200263
EP 1336274	A2	20030820	EP 2001980810	A	20011112	200362
			WO 2001IB2078	A	20011112	
BR 200115551	A	20030819	BR 200115551	A	20011112	200367
			WO 2001IB2078	A	20011112	
KR 2003059259	A	20030707	KR 2003706652	A	20030516	200377

Priority Applications (No Type Date): EP 2000811104 A 20001121

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200243324	A2	E	36	H04L-012/18	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200212596 A H04L-012/18 Based on patent WO 200243324

EP 1336274 A2 E H04L-012/18 Based on patent WO 200243324

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

BR 200115551 A H04L-012/18 Based on patent WO 200243324

KR 2003059259 A H04L-012/28

Abstract (Basic): WO 200243324 A2

NOVELTY - A first data set in memory of the data processing system  
is recorded and the **best path** cost is selected from the data set.  
The selected cost is recorded in a second data set in memory and the  
second data set is eliminated from the first data set. The cumulative  
path costs for direct paths to the destination node from any other node  
are recorded in the first data set and costs associated with the nodes  
in the data sets are **compared**. All **costs** are checked, and the  
efficient costs are recorded.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for

(1) a computer program element with code

(2) apparatus for deriving a set of **efficient path** costs for a

group of nodes

USE - Deriving set of **efficient path** costs for group of data nodes.

ADVANTAGE - Simpler and faster computation.

DESCRIPTION OF DRAWING(S) - The drawing is a flow chart of the method.

pp; 36 DwgNo 17/18

Title Terms: DERIVATIVE; SET; EFFICIENCY; PATH; COST; GROUP; NODE; DATA; COMMUNICATE; NETWORK; SUPPORT; QUALITY; SERVICE; COMMUNICATE; ACCORD; BANDWIDTH; DELAY

Derwent Class: T01; W01

International Patent Class (Main): H04L-012/18; H04L-012/28

International Patent Class (Additional): H04L-012/56

File Segment: EPI

Manual Codes (EPI/S-X): T01-N01A; T01-N02A3B; T01-S03; W01-A06E; W01-A06G5

15/9/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

014481943 \*\*Image available\*\*

WPI Acc No: 2002-302646/200234

XRFX Acc No: N02-236679

**Call connection method used in telecommunication network, involves allocating bandwidth for call forwarding by comparing requested cost and class of services, with bandwidth availability details**

Patent Assignee: ANIP INC (ANIP-N)

Inventor: MASHINSKY A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6343073	B1	20020129	US 972144	A	19971231	200234 B

Priority Applications (No Type Date): US 972144 A 19971231

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6343073	B1	31	H04L-012/28	

Abstract (Basic): US 6343073 B1

NOVELTY - The cost call database containing cost and class of services requested by a user and bandwidth availability data in a database are compared, to allocate bandwidth for forwarding a call from a calling device (155) to a called device (160).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Telecommunication traffic routing system;

(b) Telecommunication traffic transmission method

USE - For call connection between telephone, answering machine, facsimile in telecommunication networks e.g. ISDN.

ADVANTAGE - The utilization efficiency of ISDN link is improved by dynamically allocating available bandwidth, hence cost **efficient routing** is enabled.

DESCRIPTION OF DRAWING(S) - The figure shows a block diagram of communication system.

Calling device (155)

Called device (160)

pp; 31 DwgNo 1A/15

Title Terms: CALL; CONNECT; METHOD; TELECOMMUNICATION; NETWORK; ALLOCATE; BANDWIDTH; CALL; FORWARDING; COMPARE; REQUEST; COST; CLASS; SERVICE; BANDWIDTH; AVAILABLE; DETAIL

Derwent Class: W01; W02  
International Patent Class (Main): H04L-012/28  
File Segment: EPI  
Manual Codes (EPI/S-X): W01-C02B6; W01-C05B7D; W02-J08C

15/9/5 (Item 5 from file: 347)  
DIALOG(R) File 347:JAPIO  
(c) 2004 JPO & JAPIO. All rts. reserv.

06473801 \*\*Image available\*\*  
DEVICE AND METHOD FOR **EVALUATING** TRANSMISSION LINE NETWORK **COST** ,  
RECORDING MEDIUM RECORDED WITH PROGRAM THEREFOR, AND TRANSMISSION ROUTE  
SETTING DEVICE

PUB. NO.: 2000-059376 [JP 2000059376 A]  
PUBLISHED: February 25, 2000 (20000225)  
INVENTOR(s): OTA SATOSHI  
APPLICANT(s): NIPPON TELEGR & TELEPH CORP (NTT)  
APPL. NO.: 10-223305 [JP 98223305]  
FILED: August 06, 1998 (19980806)  
INTL CLASS: H04L-012/28; H04L-012/56

#### ABSTRACT

PROBLEM TO BE SOLVED: To more exactly **evaluate** the **cost** performance of a transmission line network.

SOLUTION: This transmission line network **cost evaluating** device 20 is provided with a route setting part 31 for setting the paths of respective multiplex order groups, the setting spot of a transmission medium and route in a pipeline network so as to satisfy the requested demand path, thereby calculating the cost of equipments and obtaining the cost of the transmission line network. The route setting part 31 is composed of an initial route setting part for setting the route of the demand path into shortest route based on the physical distance of a pipeline on the transmission line network and setting a high speed multiplex order group path or the like for accommodating this route equally with the set shortest route of the demand path, pipeline distance correcting part for finding the efficiency of using the band of the transmission medium in the pipeline of the set route of the path and correcting the distance so as to extend the pipeline of low use **efficiency** , and **route** resetting part for setting the route of the demand path into shortest route based on the corrected pipeline distance and setting the high speed multiplex order group path or the like for accommodating this route equally with the set shortest route of the demand path.

18/9/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

011638727 \*\*Image available\*\*  
WPI Acc No: 1998-055635/199806  
XRPX Acc No: N98-044138

Telecommunications cost optimisation device - uses network selection device for evaluating specific cost parameters for alternate telecommunications networks to select most cost-effective connection path

Patent Assignee: TRIPLE I GMBH TECH KOMMUNIKATIONSINTEGRA (TRIP-N)

Inventor: THIERBACH H

Number of Countries: 018 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 817458	A2	19980107	EP 97111316	A	19970704	199806 B
DE 19627287	A1	19980108	DE 1027287	A	19960706	199807

Priority Applications (No Type Date): DE 1027287 A 19960706

Cited Patents: No-SR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 817458	A2	G	9	H04M-015/00	
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Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE

DE 19627287	A1	5	H04M-003/42
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Abstract (Basic): EP 817458 A

The telecommunications cost optimisation device uses a telecommunications device (3) which can be operated via a number of alternate telecommunications networks (GSM, ISDN), selected in dependence on the cost of the respective connection paths.

The telecommunications device is coupled to a network selection device (1) **evaluating** the network specific **cost** parameters for each network to select the most cost- **effective connection path**.

USE - E.g. for business or private telephone user.

ADVANTAGE - Ensures cost-efficient use of alternate networks.

Dwg.1/5

Title Terms: TELECOMMUNICATION; COST; OPTIMUM; DEVICE; NETWORK; SELECT;  
DEVICE; EVALUATE; SPECIFIC; COST; PARAMETER; ALTERNATE; TELECOMMUNICATION  
; NETWORK; SELECT; COST; EFFECT; CONNECT; PATH

Derwent Class: W01

International Patent Class (Main): H04M-003/42; H04M-015/00

International Patent Class (Additional): H04L-012/00

File Segment: EPI

Manual Codes (EPI/S-X): W01-C02A1A; W01-C02A7; W01-C05B7; W01-C06

?

File 9:Business & Industry(R) Jul/1994-2004/Apr 05  
     (c) 2004 The Gale Group  
 File 16:Gale Group PROMT(R) 1990-2004/Apr 06  
     (c) 2004 The Gale Group  
 File 47:Gale Group Magazine DB(TM) 1959-2004/Apr 06  
     (c) 2004 The Gale group  
 File 148:Gale Group Trade & Industry DB 1976-2004/Apr 06  
     (c)2004 The Gale Group  
 File 160:Gale Group PROMT(R) 1972-1989  
     (c) 1999 The Gale Group  
 File 275:Gale Group Computer DB(TM) 1983-2004/Apr 06  
     (c) 2004 The Gale Group  
 File 570:Gale Group MARS(R) 1984-2004/Apr 06  
     (c) 2004 The Gale Group  
 File 621:Gale Group New Prod.Annou.(R) 1985-2004/Apr 06  
     (c) 2004 The Gale Group  
 File 636:Gale Group Newsletter DB(TM) 1987-2004/Apr 06  
     (c) 2004 The Gale Group  
 File 649:Gale Group Newswire ASAP(TM) 2004/Apr 05  
     (c) 2004 The Gale Group

Set	Items	Description
S1	3623117	COMPARE? ? OR COMPARING OR COMPARISON?
S2	2030241	EVALUAT???? ?
S3	213808	S1:S2(3N) (COST OR COSTS OR COSTED OR COSTING? OR EXPENSE? ? OR EXPENDITURE? OR PRICE OR PRICES OR FEE OR FEES)
S4	4380525	CONNECT???? ? OR CONNECTIVIT? OR ROUTE OR ROUTES OR ROUTED OR ROUTING OR PATH? ? OR PATHWAY? ?
S5	654241	S4(3N) (NETWORK? OR NET()WORK? ? OR EXTRANET? OR INTERNET? ? OR INTRANET? OR VLAN? ? OR VPN? ? OR LAN OR LANS OR WAN OR W- ANS OR WLAN OR WLANS)
S6	610252	BASELINE? ? OR BASE()LINE? ? OR BENCHMARK? OR BENCH()MARK? ? OR YARDSTICK? OR YARD()STICK? ? OR TOUCHSTONE? OR TOUCH()ST- ONE? ? OR TEMPLATE?
S7	5044	(OPTIMAL OR OPTIMUM?) (2W)S4
S8	21	S3(S)S7
S9	4	S8/2001:2004
S10	17	S8 NOT S9
S11	11	RD (unique items)
S12	53940	(OPTIMIS? OR OPTIMIZ? OR BEST OR EFFICIEN? OR EFFICACIOUS? OR EFFECTUAL? OR EFFECTIVE?) (2W)S4
S13	70	S3(25N)S12
S14	8	S13/2001:2004
S15	60	S13 NOT (S14 OR S8)
S16	30	RD (unique items)

11/3,K/1 (Item 1 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

07517778 Supplier Number: 62927977 (USE FORMAT 7 FOR FULLTEXT)

**Decision-support system.**

Dey, Prasanta Kumar; Gupta, Soumitra Shankar  
The Oil and Gas Journal, v98, n22, p68  
May 29, 2000  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 3419

... factors interactively. The system is demonstrated here through a case study of route selection.

A **cost** -benefit **comparison** of the shortest route (conventionally selected) and **optimal route** establishes the effectiveness of the model.

Goals; mistakes

Cross-country petroleum pipeline route selection is...

11/3,K/2 (Item 2 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

04279626 Supplier Number: 46270163 (USE FORMAT 7 FOR FULLTEXT)

**Clear Process manages fine**

InfoWorld, p091  
April 1, 1996  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 1477

... the entry of information, and we had to delete these manually.

We used charts to **compare** the time and **cost** of a process taking different paths. Clear Analyzer can also identify critical (the longest or most costly) and **optimal** (most efficient) **paths**.

Sometimes a process contains parallel tasks or actions that are affected by probability -- conditions that...

11/3,K/4 (Item 4 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

02562414 Supplier Number: 43398018 (USE FORMAT 7 FOR FULLTEXT)

**SONET: BELLCORE TOOL MAKES PLANNING FOR SONET-BASED FIBER-OPTIC NETWORKS**

**EASY, AFFORDABLE & RELIABLE**

EDGE, on & about AT&T, v7, n222, pN/A  
Oct 26, 1992  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 379

... City area.

The SONET Toolkit offers two utilities. The "Ring Analyzer" helps experienced network planners **compare costs** for SONET ring equipment. SONET rings are networks that encircle an area such as a...

...fiber and associated electronics would be required for a SONET ring and to create the **optimal routing** for the services carried on the ring network.

The second utility, the "Architecture Selector," helps...

**11/3,K/7 (Item 1 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2004 The Gale Group. All rts. reserv.

08573110 SUPPLIER NUMBER: 18155241 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Clear Process manages fine. (Update) (Software Review) (Evaluation)**  
Heck, Mike  
InfoWorld, v18, n14, p91(1)  
April 1, 1996  
DOCUMENT TYPE: Evaluation ISSN: 0199-6649 LANGUAGE: English  
RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 1509 LINE COUNT: 00130

... taking different paths. Clear Analyzer can also identify critical (the longest or most costly) and **optimal** (most efficient) **paths**.

Sometimes a process contains parallel tasks or actions that are affected by probability -- conditions that...

**11/3,K/8 (Item 2 from file: 148)**  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2004 The Gale Group. All rts. reserv.

07191203 SUPPLIER NUMBER: 15065064 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**SDH: Bellcore tool makes planning for SDH-based fiber-optic networks easy, affordable & reliable. (Synchronous Digital Hierarchy) (SDH Toolkit network planning software) (Product Announcement)**  
EDGE, on & about AT&T, v9, n288, p7(1)  
Jan 31, 1994  
DOCUMENT TYPE: Product Announcement LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT  
WORD COUNT: 385 LINE COUNT: 00033

... electronics would be required for SDH rings of all possible architectures, and to create the **optimal routing** for the services carried on the ring network.

The second utility, the "Architecture Selector," helps...

**11/3,K/10 (Item 2 from file: 275)**  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

01053269 SUPPLIER NUMBER: 00554372  
**PABX - Hub of Developing Offices.**  
Wallace, L.  
Modern Office, v23, n2, p10-12  
March, 1984  
ISSN: 0047-7737 LANGUAGE: ENGLISH RECORD TYPE: ABSTRACT

...ABSTRACT: to stored-program computerized systems. These third generation PABX systems can monitor use and provide **optimum route** selection. Fourth generation microprocessor controlled PABXs will permit digitized voice and data transmission. These technological...

...for PABX systems should include upgrading capability, management control, user friendly functions, and monitoring for **cost** -effectiveness. A chart **comparing** the features of models from eight companies is shown.

11/3,K/11 (Item 1 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

03144830 Supplier Number: 46435563 (USE FORMAT 7 FOR FULLTEXT)  
**POW! DISTRIBUTION: Flowcharting & spreadsheet combined for powerful process analysis tool**  
M2 Presswire, pN/A  
June 3, 1996  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 792

(USE FORMAT 7 FOR FULLTEXT)  
TEXT:  
...various scenarios by selecting the automatic path generation feature. CLEAR Process identifies the critical and **optimal paths**, allowing the user to see all the possible outcomes. If a certain flow path appears...  
  
...make the system more efficient, such as turnaround time, distribution and fulfillment options and material **costs**. Customers can then **evaluate** alternatives and find the optimal one based on the most important criteria. Using CLEAR Process...



16/3,K/24 (Item 1 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

02277624 SUPPLIER NUMBER: 54082324 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Tales of the DB2 Optimizer. (Product Support) (Tutorial)**  
Baker, Bonnie  
Intelligent Enterprise, 2, 4, 57(1)  
March 9, 1999  
DOCUMENT TYPE: Tutorial LANGUAGE: English RECORD TYPE: Fulltext;  
Abstract  
WORD COUNT: 2254 LINE COUNT: 00166

... SQL, weighs relevant statistics in the catalog, and determines what indexes are available. After much **cost** analysis and timeron **comparison**, it comes up with the **best** available access **path** to get the information you requested. It thinks it knows where you wanted to end...  
?t16/3,k/26-27

16/3,K/26 (Item 3 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

01448098 SUPPLIER NUMBER: 11203427 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Expanding a hierarchy. (how Microsoft SQL Server handles multilevel relationships in data base tables) (tutorial)**  
Vicik, Rick  
DBMS, v4, n10, p68(2)  
Sept, 1991  
DOCUMENT TYPE: tutorial ISSN: 1041-5173 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 2475 LINE COUNT: 00230

... route.  
Also, to find the lowest-cost route whenever the destination is reached, you could **compare** the total **cost** with the best cost so far:  
SELECT @cost=SUM (cost) FROM #list IF @cost<@lowest cost BEGIN @lowest cost = @cost TRUNCATE TABLE # **best route** INSERT # **best route** SELECT \* FROM #list END  
For greater efficiency, stop expanding the current route if the cost  
...

16/3,K/27 (Item 1 from file: 621)  
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)  
(c) 2004 The Gale Group. All rts. reserv.

01129715 Supplier Number: 41059455 (USE FORMAT 7 FOR FULLTEXT)  
**IDT SHIPS MacStation (TM) DEVELOPMENT SYSTEM; Converts Macintosh II Into R3000/R3001 Software Development Workstation**  
News Release, p1  
Dec 11, 1989  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 502

... IDT UNIX (R) and 'C' Compiler, the  
IDT7RS501 provides embedded control designers with the most **cost - effective path** to **evaluate** and design with high-performance R3000/R3001 RISC architecture.

The MacStation allows convenient program generation...

?

File 256:SoftBase:Reviews,Companies&Prods. 82-2004/Mar  
(c)2004 Info.Sources Inc  
File 2:INSPEC 1969-2004/Mar W4  
(c) 2004 Institution of Electrical Engineers  
File 6:NTIS 1964-2004/Apr W1  
(c) 2004 NTIS, Intl Cpyrght All Rights Res  
File 8:Ei Compendex(R) 1970-2004/Mar W4  
(c) 2004 Elsevier Eng. Info. Inc.  
File 34:SciSearch(R) Cited Ref Sci 1990-2004/Mar W4  
(c) 2004 Inst for Sci Info  
File 35:Dissertation Abs Online 1861-2004/Mar  
(c) 2004 ProQuest Info&Learning  
File 65:Inside Conferences 1993-2004/Apr W1  
(c) 2004 BLDSC all rts. reserv.  
File 94:JICST-EPlus 1985-2004/Mar W3  
(c)2004 Japan Science and Tech Corp(JST)  
File 95:TEME-Technology & Management 1989-2004/Mar W3  
(c) 2004 FIZ TECHNIK  
File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Feb  
(c) 2004 The HW Wilson Co.  
File 111:TGG Natl.Newspaper Index(SM) 1979-2004/Apr 06  
(c) 2004 The Gale Group  
File 144:Pascal 1973-2004/Mar W4  
(c) 2004 INIST/CNRS  
File 202:Info. Sci. & Tech. Abs. 1966-2004/Feb 27  
(c) 2004 EBSCO Publishing  
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep  
(c) 2003 EBSCO Pub.  
File 266:FEDRIP 2004/Feb  
Comp & dist by NTIS, Intl Copyright All Rights Res  
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 1998 Inst for Sci Info  
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Set	Items	Description
S1	5960443	COMPARE? ? OR COMPARING OR COMPARISON?
S2	4117853	EVALUAT???? ?
S3	81255	S1:S2(3N) (COST OR COSTS OR COSTED OR COSTING? OR EXPENSE? ? OR EXPENDITURE? OR PRICE OR PRICES OR FEE OR FEES)
S4	2929455	CONNECT???? ? OR CONNECTIVIT? OR ROUTE OR ROUTES OR ROUTED OR ROUTING OR PATH? ? OR PATHWAY? ?
S5	119229	S4(3N) (NETWORK? OR NET()WORK? ? OR EXTRANET? OR INTERNET? ? OR INTRANET? OR VLAN? ? OR VPN? ? OR LAN OR LANS OR WAN OR W- ANS OR WLAN OR WLANS)
S6	471775	BASELINE? ? OR BASE()LINE? ? OR BENCHMARK? OR BENCH()MARK? ? OR YARDSTICK? OR YARD()STICK? ? OR TOUCHSTONE? OR TOUCH()ST- ONE? ? OR TEMPLATE?
S7	12572	(OPTIMAL OR OPTIMUM?) (2W) S4
S8	22458	(OPTIMIS? OR OPTIMIZ? OR BEST OR EFFICIEN? OR EFFICACIOUS? OR EFFECTUAL? OR EFFECTIVE?) (2W) S4
S9	39	COSTBENEFIT? OR COSTEFFICIEN?
S10	134	S3(S) S7:S8
S11	0	S9(S) S7:S8
S12	41	S10/2001:2004
S13	93	S10 NOT S12

S14 63 RD (unique items)

14/7/3 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

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6590420 INSPEC Abstract Number: C2000-06-5220P-041

**Title: Hierarchical interconnection networks with folded hypercubes as basic clusters**

Author(s): Yuntao Shi; Zifeng Hou; Jianping Song

Author Affiliation: Inst. of Comput. Technol., Acad. Sinica, China

Conference Title: Proceedings Fourth International Conference/Exhibition on High Performance Computing in the Asia-Pacific Region Part vol.1 p.134-7 vol.1

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 2000 Country of Publication: USA 2 vol. xxiv+1179 pp.

ISBN: 0 7695 0589 2 Material Identity Number: XX-2000-00916

U.S. Copyright Clearance Center Code: 0 7695 0589 2/2000/\$10.00

Conference Title: Proceedings Fourth International Conference/Exhibition on High Performance Computing in the Asia-Pacific Region

Conference Date: 14-17 May 2000 Conference Location: Beijing, China

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The paper introduces a class of hierarchical interconnection networks, which is suitable for multicomputer systems. These networks, to which we give the name HFCube, employ the folded hypercube as a basic cluster, connect many such clusters using a complete graph, and maintain node connectivity to be the same for all nodes of the graph. We present all **optimal routing** algorithms for the HFCube. In addition, we investigate the properties of the HFCube and show that the HFCube exhibits **cost effectiveness, compared** to other hierarchical networks. (8 Refs)

Subfile: C

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14/7/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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6463957 INSPEC Abstract Number: B2000-02-8120J-029

**Title: Optimal routing of distribution network considering reliability indices**

Author(s): Dong-Joon Shin; Pyung-Kweon Roh; Jin-O Kim

Journal: Transactions of the Korean Institute of Electrical Engineers, A vol.48, no.9 p.1073-80

Publisher: Korean Inst. Electr. Eng,

Publication Date: Sept. 1999 Country of Publication: South Korea

CODEN: CHNODD ISSN: 1229-2443

SICI: 1229-2443(199909)48:9L:1073:ORDN;1-T

Material Identity Number: H329-1999-009

Language: Korean Document Type: Journal Paper (JP)

Treatment: Economic aspects (E); Theoretical (T)

Abstract: **Optimal routing** of distribution networks can be attained by keeping the line power capacity limit to handle load requirements, acceptable voltage at customer loads, and the reliability indices such as SAIFI, SAIDI, CAIDI and ASAI limits. This method is composed of optimal loss reduction and optimal reliability cost reduction. The former is related to the conductor resistance of all alternative routes, and the latter is solved relating to the failure rate duration of each alternative

route. The routing considering optimal loss only and both optimal loss and optimal reliability **cost** are **compared** in this paper. The case studies with 10 and 24 bus distribution networks showed that reliability cost should be considered as well as loss reduction to achieve the **optimal routing** in the distribution networks. (9 Refs)

Subfile: B

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14/7/5 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6429806 INSPEC Abstract Number: C2000-01-3360B-010

**Title: Decision support and artificial intelligence in GIS: overview and applications**

Author(s): Tzafestas, S.G.; Laliotis, L.N.; Protonotarios, M.

Author Affiliation: Div. of Comput. Sci., Nat. Tech. Univ. of Athens, Greece

Conference Title: Control Applications and Ergonomics in Agriculture (CAEA'98). Proceedings volume from the IFAC Workshop p.53-60

Editor(s): Sigrimis, N.; Groumpos, P.

Publisher: Elsevier Sci, Kidlington, UK

Publication Date: 1999 Country of Publication: UK viii+343 pp.

ISBN: 0 08 043229 8 Material Identity Number: XX-1999-01011

Conference Title: Proceedings of Control Applications and Ergonomics in Agriculture

Conference Sponsor: IFAC; Commission Int. Genie Rural; Eur. Soc. Agric. Eng

Conference Date: 14-17 June 1998 Conference Location: Athens, Greece

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: In this paper, an overview of DSS and AI issues applied to geographical information systems (GIS) is provided. The fundamental concepts and components involved in these systems are included. along with the major problems where they can be profitably used. Four particular real-life applications (case studies) are outlined. These are: 1) the Athens real-time traffic congestion system, 2) the **best route** facility, 3) the route **cost comparing** system, and 4) the traffic pre-emption system. The paper concludes with a discussion on the capabilities of GIS enhanced with DSS and AI functions. (18 Refs)

Subfile: C

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14/7/12 (Item 12 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5347345 INSPEC Abstract Number: C9609-3360J-061

**Title: A motion planning method for an AUV**

Author(s): Arinaga, S.; Nakajima, S.; Okabe, H.; Ono, A.; Kanayama, Y.

Author Affiliation: Mitsubishi Heavy Ind. Ltd., Nagasaki, Japan

Conference Title: Proceedings of the 1996 Symposium on Autonomous Underwater Vehicle Technology (Cat. No.96CH35900) p.477-84

Publisher: IEEE, New York, NY, USA

Publication Date: 1996 Country of Publication: USA 492 pp.

ISBN: 0 7803 3185 0 Material Identity Number: XX96-00974

U.S. Copyright Clearance Center Code: 0 7803 3185 0/96/\$5.00

Conference Title: Proceedings of Symposium on Autonomous Underwater

## Vehicle Technology

Conference Sponsor: Oceanic Eng. Soc. IEEE

Conference Date: 2-6 June 1996 Conference Location: Monterey, CA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T); Experimental (X)

**Abstract:** The authors have been developing an underwater vehicle "Umihico" that autonomously plans and executes given missions. This paper discusses the problem of finding an optimal motion plan for an AUV. The proposed motion planning algorithm is divided into two steps, the global path planning and the local motion planning steps. In the global path planning step, we first define a connectivity graph to **evaluate** the **cost** of each path class. Next we apply the Dijkstra's algorithm or the all-pairs cost algorithm to the graph to find the **optimal** (minimum cost) **path** class. In the local motion planning step, a smooth path segment which connects two configurations in the **optimal path** class in each region is computed. If there are any obstacles, the local motion planning algorithm will plan and execute an obstacle avoiding action. The effectiveness and robustness of the solution algorithm are verified through simulation. (18 Refs)

Subfile: C

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14/7/13 (Item 13 from file: 2)

DIALOG(R) File 2:INSPEC

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5260921 INSPEC Abstract Number: B9606-6150P-017

**Title: Cost comparison of STM and ATM path networks**

Author(s): Hadama, H.; Izaki, T.; Tokizawa, I.

Author Affiliation: NTT Opt. Network Syst. Labs., Yokosuka, Japan

Journal: IEICE Transactions on Communications vol.E79-B, no.3 p. 378-83

Publisher: Inst. Electron. Inf. & Commun. Eng,

Publication Date: March 1996 Country of Publication: Japan

CODEN: ITCMEZ ISSN: 0916-8516

SICI: 0916-8516(199603)E79B:3L:378:CCPN;1-9

Material Identity Number: P711-96005

Language: English Document Type: Journal Paper (JP)

Treatment: Economic aspects (E); Practical (P)

**Abstract:** In order to pave the way to B-ISDN, one of the most important issues for network providers is to identify the most efficient B-ISDN introduction strategy. This paper focuses on the costs of introducing ATM transmission systems into backbone transport networks which must provide highly reliable broadband transmission capability. In this context, the main rival to ATM is synchronous transfer mode (STM). Recent synchronous digital hierarchy (SDH) equipment supports the establishment of advanced STM-based high speed transport networks. This paper offers a **cost comparison** of ATM and STM based backbone transport networks. A digital path network in STM has a hierarchical structure determined by the hierarchical multiplexing scheme employed. The minimum cost STM path network can only be determined by developing a path design method that considers all hierarchical path levels and yields the optimum balance of link cost and node cost. Virtual paths have desirable features such as non-deterministic path bandwidth and non-hierarchical and direct multiplexing capability into high speed optical transmission links. These features make it possible to implement a non-hierarchical VP network with ATM crossconnect systems which can handle any bandwidth VP with a universal cell switching function. This paper shows that non-hierarchical VP routing, which strongly minimizes link cost, can be implemented without significantly increasing node cost. Network design simulations show that

the virtual path scheme, possible only in an ATM network, yields the most cost **effective path** network configuration. (8 Refs)

Subfile: B

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14/7/15 (Item 15 from file: 2)

DIALOG(R)File 2:INSPEC

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4881435 INSPEC Abstract Number: C9503-4230M-043

**Title: Design and analysis of product networks**

Author(s): Youssef, A.

Author Affiliation: Dept. of Electr. Eng. & Comput. Sci., George Washington Univ., Washington, DC, USA

p.521-8

Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA

Publication Date: 1994 Country of Publication: USA xvi+539 pp.

ISBN: 0 8186 6965 9

U.S. Copyright Clearance Center Code: 0 8186 6965 9/95/\$04.00

Conference Title: Proceedings Frontiers '95. The Fifth Symposium on the Frontiers of Massively Parallel Computation

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Comput. Archit.; NASA; Univ. Maryland Inst. Adv. Comput. Studies; George Mason Univ

Conference Date: 6-9 Feb. 1995 Conference Location: McLean, VA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: In this paper a unified theory of Cartesian product networks is developed. Product networks (PN) include meshes, tori, and hypercubes among others. This paper studies the fundamental issues of topological properties, cost-performance ratio **optimization**, scalability, **routing**, embedding, and fault tolerance properties of PNs. In particular, the degree, diameter, average distance, connectivity, and node-symmetry of PNs are related to those of their constituent factor networks. **Cost** /performance analysis and **comparison** between different PNs, especially n-dimensional meshes/tori and n-dimensional r-ary hypercubes, are conducted, and the optimal trade-off between the number of dimensions and the size along each dimension are identified. Fast generic algorithms for point-to-point routing, broadcasting and permuting on PNs are designed, making use of the corresponding algorithms of the factor networks. Finally, efficient embeddings on PNs are constructed for linear arrays, rings, meshes, tori and trees. (15 Refs)

Subfile: C

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14/7/17 (Item 17 from file: 2)

DIALOG(R)File 2:INSPEC

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4712191 INSPEC Abstract Number: C9409-5120-002

**Title: Performance-driven technology mapping for field programmable gate arrays**

Author(s): Chunghee Kim; Hyunchul Shin

Journal: Journal of the Korea Information Science Society vol.21, no.5 p.866-73

Publication Date: May 1994 Country of Publication: South Korea

CODEN: HJKHDC ISSN: 0258-9125

Language: Korean Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: An effective optimization technique is developed for technology mapping of lookup table based field programmable gate arrays. In our algorithm, the minimal depth of a Boolean network is found and then the cost function is minimized by changing the levels of nodes without increasing the depth. **Optimization** for reconvergent **paths** and duplication of logic is automatically considered during the **cost evaluation**. Experimental results show that our approach produces the same depth for the 17 benchmark circuits tried as those of FlowMap which guarantees the optimum depth. Furthermore, the new method used 15% less number of LUTs than those of FlowMap on the average. (15 Refs)

Subfile: C

14/7/20 (Item 20 from file: 2)

DIALOG(R)File 2:INSPEC

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03400415 INSPEC Abstract Number: C89041657

**Title: Cost-benefit analysis with switching regimes: an application of the theory of planning**

Author(s): Sheshinski, E.; Intriligator, M.D.

Author Affiliation: Hebrew Univ., Jerusalem, Israel

Journal: Computers & Mathematics with Applications vol.17, no.8-9  
p.1317-27

Publication Date: 1989 Country of Publication: UK

CODEN: CMAPDK ISSN: 0097-4943

U.S. Copyright Clearance Center Code: 0097-4943/89/\$3.00+0.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: An extension of **cost** -benefit analysis, which **evaluates** streams of future returns and costs, whether certain or uncertain, is presented which allows for internal **optimization** along the **path**, in particular, for optimization over the choice of processes at each instant, such as in the choice of alternative technologies. Application is made to the case of switching regimes, where it is possible to switch from one process to another but at a cost, such as in the choice of oil vs. nuclear technologies for electricity generation. Use is made of the authors' prior framework for planning theory, involving choices for the horizon and period and for event as well as time planning. The **optimal path** involves time planning in the case of certainty and event planning in the case of uncertainty. In the case of uncertainty the policy variables of the system are dependent both on time and on the state variables characterizing the system. One interpretation of the main result is that (s, S) inventory-type planning can be applied to the choice of alternative processes in the presence of discrete switching costs. Another interpretation is that of an extension of the Pigou point to dynamical systems. Three cases are treated: that of certainty, that of uncertainty, and that of learning from experience. (12 Refs)

Subfile: C

14/7/23 (Item 23 from file: 2)

DIALOG(R)File 2:INSPEC

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02110947 INSPEC Abstract Number: B83050939, C83034750

**Title: Routing to multiple destinations in computer networks**

Author(s): Bharath-Kumar, K.; Jaffe, J.M.

Author Affiliation: IBM, Yorktown Heights, NY, USA

Conference Title: Pathways to the Information Society. Proceedings of the

Sixth International Conference on Computer Communication p.949-54  
Editor(s): Williams, M.B.  
Publisher: North-Holland, Amsterdam, Netherlands  
Publication Date: 1982 Country of Publication: Netherlands xx+1018  
pp.

ISBN: 0 444 86464 4

Conference Sponsor: Int. Council Comput. Comm

Conference Date: 7-10 Sept. 1982 Conference Location: London, UK

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: Algorithms for **effectively** routing messages from a source to multiple destination nodes in a store-and-forward computer network are studied. The focus is on minimizing the network cost (NC) which is the sum of weights of the links in the routing path. This measure is **compared** to the destination **cost** (DC) which is the sum of the shortest path distances to all destinations. The two measures are shown to be quite different in that the path with optimum DC may have a NC which is  $O(m)$  times worse than the NC of the **optimum NC path** and vice versa, where  $m$  is the number of destinations. A scheme of algorithms is given which trade off between NC and DC. Several heuristic algorithms are examined for finding the NC minimum path (which is an NP-complete problem). While the minimum spanning tree algorithm has the best worst case performance among all algorithms, a detailed, empirical study of the 'average' performance of the algorithms on typical, randomly chosen networks reveals that simpler heuristics are almost as effective. The empirical study also leads to an extensive set of additional conclusions. (11 Refs)

Subfile: B C

? t14/7/24-25,29-30,35-36,

14/7/24 (Item 24 from file: 2)

DIALOG(R)File 2:INSPEC

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01965142 INSPEC Abstract Number: C83002032

Title: **Distributed circuit switching Starnet**

Author(s): Chuan-lin Wu; Woei Lin; Min-Chang Lin

Author Affiliation: Dept. of Electrical Engng., Univ. of Texas, Austin, TX, USA

Conference Title: Proceedings of the 1982 International Conference on Parallel Processing p.26-33

Editor(s): Batcher, K.E.; Meilander, W.C.; Potter, J.L.

Publisher: IEEE, New York, NY, USA

Publication Date: 1982 Country of Publication: USA x+370 pp.

Conference Sponsor: Ohio State Univ.; IEEE

Conference Date: 24-27 Aug. 1982 Conference Location: Bellaire, MI, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Starnet is a communication subnet which can cost- **effectively connect** hundreds or thousands of processors for distributed processing. It uses distributed control and circuit switching. Starnet's communication medium includes two major components: a multistage interconnection network and a set of interface units. The interconnection network uses a destination routing scheme with no central control. The interface unit provides handshaking between the computer/data node and the interconnection network under the control of a microprocessor. Detailed design of the communication medium is described. A model for **comparing cost** -effectiveness among Starnet, crossbar and multiple buses is included. (7 Refs)

Subfile: C



14/7/25 (Item 25 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

00519779 INSPEC Abstract Number: C73013441

**Title: Algorithm for synthesizing economical data communication network**

Inventor(s): La Sharma, R.

Assignee(s): Collins Radio Co

Patent Number: US 3703006 Issue Date: 721114

Application Date: 701028

Priority Appl. Number: US 84690

Country of Publication: USA

Language: English Document Type: Patent (PT)

Treatment: Applications (A)

Abstract: A technique for **optimizing** the **connections** of a plurality of stations to a central point wherein a connection link has a predetermined maximum line weight and where optimum is defined as a distance related cost comprising setting up a trial configuration in a computer and interchanging stations on adjacent links on a sequential and selective basis and **comparing** the **cost** of each selection with the previous lowest cost connection until a predetermined number of comparisons and selections have been completed.

Subfile: C

14/7/29 (Item 3 from file: 6)  
DIALOG(R)File 6:NTIS  
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1494115 NTIS Accession Number: NTN90-0124

**Network-Control Algorithm: Channels are allocated optimally to links in a multilink, multinode network**

(NTIS Tech Note)

National Aeronautics and Space Administration, Washington, DC.

Corp. Source Codes: 011249000

Feb 90 1p

Languages: English

Journal Announcement: GRAI9010

FOR ADDITIONAL INFORMATION: Contact: NASA Technology Transfer Div., PO Box 8757 BWI Airport, MD 21240; (301) 621-0100 ext 241. Refer to NPO-17505/TN.

NTIS Prices: Not available NTIS

Country of Publication: United States

This citation summarizes a one-page announcement of technology available for utilization. An algorithm has been developed for the **optimal routing** of packets of data along the links of multilink, multinode digital communication network. The algorithm is iterative and converges to a cost-optimal assignment that is independent of the initial assignment. The network is assumed to have an arbitrary topology, in which each node is connected to several other nodes through full-duplex-multichannel links. The problem is to determine the link route between originating and destination nodes and the number of channels for packet-switched traffic along the route that minimize the cost, subject to the constraints imposed by the maximum average allowable network delay. The algorithm begins with the selection of an initial feasible flow vector, which characterizes the link route and the flow. The gradient of the cost function in the flow-vector space is then computed and used to find the shortest path. A flow-deviation subalgorithm is then used to find the next iteration of the feasible flow vector that minimizes the cost function. If the fraction of

the user demand that satisfies this flow vector can be increased, it is increased, and the resulting **cost** function is **evaluated**. The foregoing steps are repeated until the decrements of the cost function at an iteration become arbitrarily small, indicating the attainment of the global optimum. The number of channels in each link is then assigned according to the resulting flow vector.

**14/7/30 (Item 4 from file: 6)**  
DIALOG(R)File 6:NTIS  
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1389283 NTIS Accession Number: DE88770190

**Optimal Planning Method of Underground Distribution System**

Fukutome, A. ; Yoshimitsu, T.

Central Research Inst. of Electric Power Industry, Tokyo (Japan).

Corp. Source Codes: 005875000; 1566500

Report No.: CRIE-T-86072

Aug 87 39p

Languages: Japanese

Journal Announcement: GRAI8822; NSA1300

Paper copy only, copy does not permit microfiche production. In Japanese.

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NTIS Prices: PC A03

Country of Publication: Japan

The underground distribution is recently made systematically, and the systematic method of underground distribution system suitable for the area in which a number of high tension and low tension power demand were complicated was developed by applying the network optimization method to utilize for the planning of the reasonable underground distribution. Topological characteristics of roads could be inputted very simply as the mapping informations and could be represented precisely as a network. Main parameters such as location of feed points etc. could be modified easily on the CRT display, through the discussion with designers. Detailed designs except main parameters were formulated as the problems to resolve **optimal cable route**, that is, the shortest path (or minimum cost) and determined automatically. Analysis and **evaluation** of the investment **cost** could be simplified. The effect was confirmed by the computerized simulation applying this model to a standard city block. (24 figs, 9 tabs, 2 refs). (ERA citation 13:036172)

**14/7/35 (Item 9 from file: 6)**  
DIALOG(R)File 6:NTIS  
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0232539 NTIS Accession Number: AD-708 887/XAB

**Computation of Optimal Paths in Finite Graphs**

Gill, A. ; Traiger, I. L.

California Univ Berkeley Electronics Research Lab

Corp. Source Codes: 127550

Report No.: AFOSR-70-1954TR

1969 14p

Document Type: Journal article

Journal Announcement: USGRDR7017

Pub. in Computing Methods in Optimization Problems, v2 p105-118 1969.

NTIS Prices: Not available NTIS

Contract No.: NONR-222(53); AF-AFOSR-639-67

The paper is concerned with finite, directed, branch-weighted graphs whose weights are real numbers having the general connotation of 'cost' -- such as distance, transit time, expense, etc. The problem is the computation and characterization of the sets of '**optimal**' **paths** of given length k greater than or equal to 1 which begin at the 'initial' vertex of the graph and exhibit the minimum average cost per branch. Thus, the optimality of a path of any length k emanating from the initial vertex is determined by a **cost - comparison** with other paths of the same length which also emanate from that vertex. (Author)

14/7/36 (Item 10 from file: 6)

DIALOG(R)File 6:NTIS

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0086172 NTIS Accession Number: AD-609 774/XAB

**Efficiency of a Routing Scheme in a Mobile Data Processing Communication Network**

Hamburger, P.

Mitre Corp Bedford Mass

Corp. Source Codes: 8888888888

Report No.: W-06390/0000/01/1/00; ESD-TDR64 635

Dec 64 2p

Journal Announcement: USGRDR6501

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NTIS Prices: PC A02

Contract No.: AF19 628 2390; 600 6

This document examines the **efficiency** of a **routing** scheme for mobile communication nodes with data processing capability. Expressions for **evaluating** its **cost** in data rate as a function of the pertinent system variables are given. The data rate **cost** is **compared** with that of broadcasting all messages. (Author)

? t14/7/37,46,56,58

14/7/37 (Item 1 from file: 8)

DIALOG(R)File 8:EI Compendex(R)

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05389321 E.I. No: E2099104847857

**Title: Decision support system for pipeline route selection**

Author: Dey, Prasanta Kumar; Gupta, Soumitra S.

Source: Cost Engineering (Morgantown, West Virginia) v 41 n 10 1999. p 29-35

Publication Year: 1999

CODEN: CSTEDM ISSN: 0274-9696

Language: English

Document Type: JA; (Journal Article) Treatment: G; (General Review)

Journal Announcement: 9911W4

Abstract: Route selection for cross-country petroleum pipelines is governed by factors such as the shortest distance between supply and demand points, constructability, minimal effects on the environment, and approachability. These factors must be considered, along with strict government stipulations; expansion capability and the chances of pipeline failure also must be considered. A quantitative route selection methodology considers all of these, along with operability and maintainability factors.

This article establishes a decision support system (DSS) for pipeline route selection with the application of analytical hierarchy process (AHP), a multi-attribute decision-making technique. AHP takes into account all of the factors interactively. This system is demonstrated here through a case study of pipeline route selection, from an Indian perspective. A **cost-benefit comparison** of the shortest route (conventionally selected) and the **optimal route** establishes the effectiveness of the model. (Author abstract) 10 Refs.

14/7/46 (Item 10 from file: 8)  
DIALOG(R)File 8:EI Compendex(R)  
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00271368 E.I. Monthly No: EI7212014205

**Title: NETWORK EVALUATION OF COMPLEX TRANSPORTATION SYSTEMS.**

Author: Smith, Keith V.; Phillips, Charles T.; Lewis, Ralph J.

Corporate Source: Univ of California, Los Angeles

Source: Transportation Research v 6 n 1 Mar 1972 p 103-111

Publication Year: 1972

CODEN: TRREBK ISSN: 0041-1647

Language: ENGLISH

Journal Announcement: 7212

Abstract: A model for evaluating transportation systems over an entire network from the point of view of passenger users is explained. It is shown how to build an impedance matrix that summarizes the relative merits, across many attribute dimensions, of traveling on different links of a total network and how a shortest-path algorithm can be applied to the impedance matrix to determine the **optimal routing** for each origin-destination pair in the network. Alternative approaches to combining demand, user benefit and **cost** information for **evaluating** whole transportation systems are discussed. 8 refs.

14/7/56 (Item 2 from file: 94)  
DIALOG(R)File 94:JICST-EPlus  
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02739981 JICST ACCESSION NUMBER: 96A0353774 FILE SEGMENT: JICST-E

**Cost Comparison of STM and ATM Path Networks.**

HADAMA S (1); TOKIZAWA I (1); IZAKI T (2)

(1) NTT Optical Network Systems Lab., Yokosuka-shi, JPN; (2) NTT Kyushu Network Center, Fukuoka-shi, JPN

IEICE Trans Commun(Inst Electron Inf Commun Eng), 1996, VOL.E79-B,NO.3, PAGE.378-383, FIG.9, TBL.2, REF.8

JOURNAL NUMBER: L1369AAW ISSN NO: 0916-8516

UNIVERSAL DECIMAL CLASSIFICATION: 621.394/.395

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: In order to pave the way to B-ISDN, one of the most important issues for network providers is to identify the most efficient B-ISDN introduction strategy. This paper focuses on the costs of introducing ATM transmission systems into backbone transport networks which must provide highly reliable broad band transmission capability. In this context, the main rival to ATM is Synchronous Transfer Mode (STM); recent Synchronous Digital Hierarchy (SDH) equipment supports the establishment of advanced STM-based high speed transport networks. This paper offers a **cost comparison** of ATM and STM based backbone

transport networks. A digital path network in STM has a hierarchical structure determined by the hierarchical multiplexing scheme employed. The minimum cost STM path network can only be determined by developing a path design method that considers all hierarchical path levels and yields the optimum balance of link cost and node cost. Virtual paths have desirable features such as non-deterministic path bandwidth and non-hierarchical and direct multiplexing capability into high speed optical transmission links. These features make it possible to implement a nonhierarchical VP network with ATM cross connect systems which can handle any bandwidth VP with a universal cell switching function. This paper shows that the non-hierarchical VP routing, which strongly minimizes link cost, can be implemented without significantly increasing node cost. Network design simulations show that the virtual path scheme, possible only in an ATM network, yields the most cost **effective path** network configuration. (author abst.)

14/7/58 (Item 4 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01003862 JICST ACCESSION NUMBER: 90A0377698 FILE SEGMENT: JICST-E  
**Study on B-ISDN transport network architecture based on cross-connect technique.**

SUZUKI HIROSHI (1); HAYANO SHIN'ICHIRO (1); HASEGAWA SATOSHI (1); TAKEUCHI TAKAO (1)

(1) NEC Corp., C & C Systems Res. Labs.

Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report  
(Institute of Electronics, Information and Communication Engineers),  
1990, VOL.89,NO.451(SSE89 163-175), PAGE.43-48, FIG.8, TBL.1, REF.8

JOURNAL NUMBER: S0532BBG

UNIVERSAL DECIMAL CLASSIFICATION: 621.394/.395

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: This paper describes a study on a B-ISDN transport network architecture based on a cross-connect technique. First, merits of ATM and STM cross-connect system are presented. ATM has a flexibility of connecting band-width, while STM has a large connection capability. Taking both merits into consideration, a ATM/STM hierarchical cross-connect system is proposed. Next, transmission **efficiency** and cross- **connect** node **cost** are **evaluated** for the ATM, STM, and ATM/STM hierarchical system in order to validate the proposed system. As a result, it is clarified that the hierarchical system has a high transmission efficiency like the ATM, and low node cost like the STM system. Furthermore, B-ISDN evolution scenario using the proposed hierarchical system is introduced. (author abst.)

? t14/7/60,62

14/7/60 (Item 1 from file: 99)

DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

(c) 2004 The HW Wilson Co. All rts. reserv.

2142656 H.W. WILSON RECORD NUMBER: BAST00036608

**Decision-support system yields better pipeline route**

Dey, Prasanta Kumar; Gupta, Soumitra Shankar

Oil & Gas Journal v. 98 no22 (May 29 2000) p. 68-73

DOCUMENT TYPE: Feature Article ISSN: 0030-1388

ABSTRACT: A decision-support system for pipeline route selection has been

created that applies an analytical hierarchy process (AHP)--a multiple attribute decision-making technique. AHP takes account of every route-selection factor--the shortest total distance, accessibility, constructability, governmental stipulations, operability, expansion capability, and maintainability--interactively. The system is demonstrated using a case study of route selection, and a **cost**-benefit **comparison** of the shortest route--conventionally chosen--and **optimal** route proves the model's effectiveness.

14/7/62 (Item 1 from file: 233)

DIALOG(R)File 233:Internet & Personal Comp. Abs.

(c) 2003 EBSCO Pub. All rts. reserv.

00354062 94MU07-004

**Breaking network bottlenecks -- Step up the speed and convenience of Ethernet: add a fast, flexible router to your LocalTalk network**

Rizzo, John

MacUser , July 1, 1994 , v10 n7 p106-114, 6 Page(s)

ISSN: 0884-0997

Company Name: Farallon Computing; International Transware

Product Name: Farallon InterRoute/5; Transware EtherWay

Presents a buyer's guide to network Ethernet routers. Features a table **comparing** 11 products **costing** under \$3,000 from nine vendors on 12 different attributes. Explains that a router directs data in multiple networks along the most **efficient** path from source to destination and also forwards communication protocols for LocalTalk, Ethernet, or other types of connectivity technology. Claims that these routers significantly increase efficiency and speed of performance of busy networks. Gives tips for managing the routers on a network for top performance. Says selecting a router is a matter of fit with your network, budget, and desire for management control. Recommends Farallon InterRoute/5 (\$3,499) from Farallon Computing of Alameda, CA (510) and Transware EtherWay (\$1,499) from International Transware of Mountain View, CA (415). Includes 11 product photos and summaries, one table of benchmark test results, a rating summary, a graphic image, and a diagram. (DJP)

File 696:DIALOG Telecom. Newsletters 1995-2004/Apr 05  
(c) 2004 The Dialog Corp.  
File 15:ABI/Inform(R) 1971-2004/Apr 06  
(c) 2004 ProQuest Info&Learning  
File 98:General Sci Abs/Full-Text 1984-2004/Apr  
(c) 2004 The HW Wilson Co.  
File 484:Periodical Abs Plustext 1986-2004/Mar W4  
(c) 2004 ProQuest  
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File 613:PR Newswire 1999-2004/Apr 06  
(c) 2004 PR Newswire Association Inc  
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File 810:Business Wire 1986-1999/Feb 28  
(c) 1999 Business Wire  
File 610:Business Wire 1999-2004/Apr 06  
(c) 2004 Business Wire.  
File 369:New Scientist 1994-2004/Mar W4  
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File 370:Science 1996-1999/Jul W3  
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File 624:McGraw-Hill Publications 1985-2004/Apr 05  
(c) 2004 McGraw-Hill Co. Inc  
File 634:San Jose Mercury Jun 1985-2004/Apr 04  
(c) 2004 San Jose Mercury News  
File 647:CMP Computer Fulltext 1988-2004/Mar W4  
(c) 2004 CMP Media, LLC  
File 674:Computer News Fulltext 1989-2004/Apr W1  
(c) 2004 IDG Communications

Set	Items	Description
S1	3459161	COMPARE? ? OR COMPARING OR COMPARISON?
S2	1273082	EVALUAT???? ?
S3	174266	S1:S2(3N) (COST OR COSTS OR COSTED OR COSTING? OR EXPENSE? ? OR EXPENDITURE? OR PRICE OR PRICES OR FEE OR FEES)
S4	4069746	CONNECT???? ? OR CONNECTIVIT? OR ROUTE OR ROUTES OR ROUTED OR ROUTING OR PATH? ? OR PATHWAY? ?
S5	412621	S4(3N) (NETWORK? OR NET()WORK? ? OR EXTRANET? OR INTERNET? ? OR INTRANET? OR VLAN? ? OR VPN? ? OR LAN OR LANS OR WAN OR W- ANS OR WLAN OR WLANS)
S6	582970	BASLINE? ? OR BASE()LINE? ? OR BENCHMARK? OR BENCH()MARK? ? OR YARDSTICK? OR YARD()STICK? ? OR TOUCHSTONE? OR TOUCH()ST- ONE? ? OR TEMPLATE?
S7	3503	(OPTIMAL OR OPTIMUM?) (2W)S4
S8	13	S3(S)S7
S9	38683	(OPTIMIS? OR OPTIMIZ? OR BEST OR EFFICIEN? OR EFFICACIOUS? OR EFFECTUAL? OR EFFECTIVE?) (2W)S4
S10	1272	COSTBENEFIT? OR COSTEFFICIEN?
S11	71	S3(S)S9
S12	2	S10(S) (S7 OR S9)
S13	84	S8 OR S11:S12
S14	36	S13/2001:2004
S15	47	S13 NOT (S14 OR ORBLINK)
S16	34	RD (unique items)

16/3,K/3 (Item 1 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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02030288 54815789

# **Decision-support system**

Dey, Prasanta Kumar; Gupta, Soumitra Shankar  
Oil & Gas Journal v98n22 PP: 68-73 May 29, 2000  
ISSN: 0030-1388 JRNL CODE: OGJ

WORD COUNT: 2403

...TEXT: factor interactively. The system is demonstrated here through a case study of route selection.

A **cost** -benefit **comparison** of the shortest route (conventionally selected) and **optimal** route establishes the effectiveness of the model.

Goals; mistakes

Cross-country petroleum pipeline route selection is...

16/3,K/5 (Item 3 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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01906339 05-57331

**Decision support system for pipeline route selection**

Dey, Prasanta Kumar; Gupta, Soumitra S  
Cost Engineering v41n10 PP: 29-35 Oct 1999  
ISSN: 0274-9696 JRNL CODE: ACO  
WORD COUNT: 2743

...TEXT: demonstrated here through a case study of pipeline route selection, from an Indian perspective. A **cost** -benefit **comparison** of the shortest route (conventionally selected) and the **optimal** route establishes the effectiveness of the model.

Headnote:

Key Words: pipeline, decision support system, analytical hierarchy...

16/3,K/8 (Item 6 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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01184093 98-33488

**Clear Process manages fine**

Heck, Mike  
InfoWorld v18n14 PP: 91 Apr 1, 1996  
ISSN: 0199-6649 JRNL CODE: IFW  
WORD COUNT: 755

...TEXT: the entry of information, and we had to delete these manually.

We used charts to **compare** the time and **cost** of a process taking different paths. Clear Analyzer can also identify critical (the longest or most costly) and **optimal** (most **efficient**) **paths**. Sometimes a process contains parallel tasks or actions that are affected by probability - conditions that...

16/3,K/9 (Item 7 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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01159319 98-08714

**The future of the router**

Atkinson, Sarah  
Telecommunications (International Edition) v30n1 PP: 38-39 Jan 1996  
ISSN: 0040-2494 JRNL CODE: TIE  
WORD COUNT: 1632

...TEXT: line cost or speed of connection, as a slow link generally has a higher real **cost**. Routers **evaluate** **cost**, funnelling information down the most desirable network path. The router also has the intelligence to



find the next **best route** if the first choice is unavailable. Advanced switches show no signs of adopting this functionality...

16/3,K/19 (Item 17 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00262488 85-02921

**On Estimating Access Costs in Relational Databases**

Maio, D.; Scalas, M. R.; Tiberio, P.  
Information Processing Letters v19n3 PP: 157-161 Oct 19, 1984  
ISSN: 0020-0190 JRNL CODE: IPL

...ABSTRACT: focused on developing complex software modules, called optimizers, whose task is the choice of an **efficient** access **path** for a given query. The capacity to select the **best** access **path** depends strongly on the degree of formulas refinement and the database parameters employed by the optimizer in cost prediction. An operational method is proposed for **evaluating** the **cost** of accessing tuples of a relation via an index. The possible clustering of column values in data pages is taken into consideration in the **cost evaluation**. The proposed technique uses the average number of different page identifiers associated in the index...

16/3,K/27 (Item 4 from file: 635)  
DIALOG(R)File 635:Business Dateline(R)  
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0334245 92-84676

**Bellcore Tool Makes Planning for SONET-Based Fiber-Optic Networks Easy, Affordable and Reliable**

Munoz, Deanna  
Business Wire (San Francisco, CA, US) s1 p1  
PUBL DATE: 921019  
WORD COUNT: 383  
DATELINE: Morris Township, NJ, US

TEXT:

...City area.

The SONET Toolkit offers two utilities. The "Ring Analyzer" helps experienced network planners **compare costs** for SONET ring equipment. SONET rings are networks that encircle an area such as a...

...fiber and associated electronics would be required for a SONET ring and to create the **optimal routing** for the services carried on the ring network.

The second utility, the "Architecture Selector," helps...

?

File 347:JAPIO Nov 1976-2003/Nov(Updated 040308)  
(c) 2004 JPO & JAPIO  
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200418  
(c) 2004 Thomson Derwent  
File 348:EUROPEAN PATENTS 1978-2004/Mar W04  
(c) 2004 European Patent Office  
File 349:PCT FULLTEXT 1979-2002/UB=20040401,UT=20040325  
(c) 2004 WIPO/Univentio

Set	Items	Description
S1	32	AU='CAHN R':AU='CAHN ROBERT WOLFGANG'
S2	547221	NETWORK? OR NET()WORK? ?
S3	3	S1 AND S2
S4	92234	PVC? ? OR PERMANENT()VIRTUAL()CIRCUIT?
S5	0	S1 AND S4
S6	2732617	CIRCUIT?
S7	1	S1 AND S6
S8	0	S7 NOT S3

3/9/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015229618 \*\*Image available\*\*  
WPI Acc No: 2003-290540/200329  
XRPX Acc No: N03-250144

Evaluating network access arrangement from alternate access connection  
involves comparing and reporting results of test downloaded to benchmarks  
for test that could be run on access connection to backbone

Patent Assignee: AT & T CORP (AMTT ); CAHN R (CAHN-I)

Inventor: CAHN R

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2393919	A1	20030119	CA 2393919	A	20020718	200329 B
US 20030218983	A1	20031127	US 2001909123	A	20010719	200378

Priority Applications (No Type Date): US 2001909123 A 20010719

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CA 2393919	A1	E 16	H04L-012/26	
US 20030218983	A1		H04L-001/00	

Abstract (Basic): CA 2393919 A1

NOVELTY - The method involves comparing the results of the test that has been downloaded to benchmarks for the test that could be run on a set of access connection to a **network** backbone (10) from other than an alternate access connection. The results of the comparison is then reported.

DETAILED DESCRIPTION - The test is downloaded through the **network** backbone to a **network** that will produce a virtual private **network** (VPN) for a user to simulate interactions with the VPN and the alternate access connection. An INDEPENDENT CLAIM is also included for improving access to a VPN.

USE - Used in telecommunications services.

ADVANTAGE - Improves **network** access when there is a mixture of access technologies available to users of the **network** . Allows VPN provider to advise the customer of better or best access connections to use. Allows **network** designers and providers to improve data throughput in a VPN and to greatly increase efficiency of the VPN for a customer. Allows VPN provider to inform customers regarding the performance to their VPN and to advise customers of the type of services that should be accessed through a private service to the VPN as opposed to access to the VPN through some other type of access connection.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of a system for testing VPNs.

**Network** backbone (10)

pp; 16 DwgNo 3 /6

Title Terms: EVALUATE; **NETWORK** ; ACCESS; ARRANGE; ALTERNATE; ACCESS; CONNECT; COMPARE; REPORT; RESULT; TEST; TEST; RUN; ACCESS; CONNECT; BACKBONE

Derwent Class: T01; W01

International Patent Class (Main): H04L-001/00; H04L-012/26

International Patent Class (Additional): H04L-012/56

File Segment: EPI

Manual Codes (EPI/S-X): T01-N01A2D; T01-N02A3B; T01-N02B; W01-A06A; W01-A06B7E; W01-A06D; W01-A06E

3/9/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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009108225 \*\*Image available\*\*  
WPI Acc No: 1992-235655/199229  
XRPX Acc No: N92-179427

Compression control for data communication network - generating at node  
indications of maximum degree of compression capability supportable with  
neighbouring nodes to node

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC ); IBM CORP (IBMC )  
Inventor: BROUGHTON J C; CAHN R S ; GRAY J P; O'DONNELL J P  
Number of Countries: 005 Number of Patents: 005  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 494576	A1	19920715	EP 91480191	A	19911220	199229 B
US 5131016	A	19920714	US 91638928	A	19910109	199231
JP 5160835	A	19930625	JP 91265096	A	19911014	199330
EP 494576	B1	19961002	EP 91480191	A	19911220	199644
DE 69122487	E	19961107	DE 622487	A	19911220	199650
			EP 91480191	A	19911220	

Priority Applications (No Type Date): US 91638928 A 19910109

Cited Patents: EP 332345; US 4058672; WO 8400266

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 494576	A1	E	17	H04L-029/06	
US 5131016	A		14	H04B-001/66	
EP 494576	B1	E	19	H04L-029/06	
Designated States (Regional): DE FR GB					
DE 69122487	E			H04L-029/06	Based on patent EP 494576
JP 5160835	A			H04L-012/28	

Abstract (Basic): EP 494576 A

The compression control method involves generating at the node indications of the maximum degree of data compression capability supportable with neighbouring nodes to the node, if any, in two directions from the node. The node's data compression operation is controlled in accordance with said indications.

Indication of the maximum degree of data compression supportable at the nodes neighbouring nodes are received at the node. The node's own degree of data compression capability are compared with the received indications.

ADVANTAGE - Eliminates intermediate decompression and compression occurring at **network** nodes handling communication.

Dwg.1, 3/5

Abstract (Equivalent): EP 494576 B

A method of controlling the degree of compression applied by a node of a data communications **network** having plural interconnected nodes for sending and receiving data, any two of which nodes defining link terminal ends for the purposes of a given communication, each said node having an identifiable degree of data compression capability and settable nodes of data compression operation less than or equal to the identifiable compression capability, the method being applied to transmitted or received data over a link whose ends are defined in the **network** by any two of the nodes, the method comprising the steps of generating at the node indications of data compression capability supportable with neighbouring nodes, controlling the node's data compression operation in accordance with the indications, sending the indications to neighbouring nodes from the node to which the

indications pertain and receiving at the node, indications of data compression capability supportable at the node's neighbouring nodes, the method being characterised in that: the generating step indications (M2) consist in the maximum degree of data compression capability supportable with neighbouring nodes to the node, if any, and in first and/or second directions from the node; the controlling step applies to the node's data compression operation in the first and/or second directions from the node in accordance with the indications; the sending step of the indications applies to any said neighbouring nodes lying in the first and/or second directions, respectively, from the node to which the indications pertain; the receiving step at the node applies to indications (M1) of the maximum degree of data compression supportable at the node's neighbouring nodes, if any, and, further comprising a step of: comparing the node's own degree of data compression capability, if any, with the received indications, if any.

(Dwg.1/5

Abstract (Equivalent): US 5131016 A

Data communication nodes in a **network** comprising a number of nodes linked together to form communication paths negotiate by passing messages to identify to one another the maximum supportable degree of data compression capability. Logical comparisons are made at each node between indications received from upstream and downstream nodes, if any, regarding their own or their received indications of data compression capability with the present node's own degree of compression capability.

This enables logical decisions to be made to support the maximum degree of compression capability over each link or portion of a link between terminal nodes which define the ends of the overall link.

ADVANTAGE - Improves data transmission by providing highest degree of supportable compression over longest path length.

Dwg. 2/5

Title Terms: COMPRESS; CONTROL; DATA; COMMUNICATE; **NETWORK** ; GENERATE; NODE; INDICATE; MAXIMUM; DEGREE; COMPRESS; CAPABLE; SUPPORT; NEIGHBOURING ; NODE; NODE

Derwent Class: W01

International Patent Class (Main): H04B-001/66; H04L-012/28; H04L-029/06

International Patent Class (Additional): H03M-007/30; H04J-015/00; H04L-012/54

File Segment: EPI

Manual Codes (EPI/S-X): W01-A07G

3/5/3 (Item 1 from file: 348)

DIALOG(R) File 348:EUROPEAN PATENTS

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00495643

**Method and system for controlling the degree of compression applied by a node of a data communication network**

**Verfahren und Vorrichtung zur Kontrolle des Kompressionsgrades, angewendet von einem Knoten eines Datenkommunikationsnetzwerkes**

**Procede et dispositif pour controler le degre de compression applique par un noeud d'un reseau de communication de donnees**

PATENT ASSIGNEE:

International Business Machines Corporation, (200120), Old Orchard Road, Armonk, N.Y. 10504, (US), (applicant designated states: DE;FR;GB)

INVENTOR:

Broughton, John Craven, 4808 Sleepy Hollow Drive, Raleigh, NC 27612, (US)

Cahn, Robert Stern , Gipsy Trail Club, Carmel, NY 10512, (US)

Gray, James Peyton, 904 Emory Drive, Chapel Hill, NC 27514, (US)

O'Donnell, John Patrick, 105 Glenrose Lane, Cary, NC 27511, (US)

LEGAL REPRESENTATIVE:

de Pena, Alain et al (15151), Compagnie IBM France Departement de  
Propriete Intellectuelle, 06610 La Gaude, (FR)  
PATENT (CC, No, Kind, Date): EP 494576 A1 920715 (Basic)  
EP 494576 B1 961002  
APPLICATION (CC, No, Date): EP 91480191 911220;  
PRIORITY (CC, No, Date): US 638928 910109  
DESIGNATED STATES: DE; FR; GB  
INTERNATIONAL PATENT CLASS: H04L-029/06;  
CITED PATENTS (EP A): EP 332345 A; US 4058672 A; WO 8400266 A

ABSTRACT EP 494576 A1

Data communication nodes in a **network** comprising a plurality of nodes linked together to form communication paths negotiate by passing messages to identify to one another the maximum supportable degree of data compression capability. Logical comparisons are made at each node between indications received from upstream and downstream nodes, if any, regarding their own or their received indications of data compression capability with the present node's own degree of compression capability. This enables logical decisions to be made to support the maximum degree of compression capability over each link or portion of a link between terminal nodes which define the ends of the overall link, thus improving data transmission by providing the highest degree of supportable compression over the longest path length. (see image in original document)

ABSTRACT EP 494576 B1

Data communication nodes in a **network** comprising a plurality of nodes linked together to form communication paths negotiate by passing messages to identify to one another the maximum supportable degree of data compression capability. Logical comparisons are made at each node between indications received from upstream and downstream nodes, if any, regarding their own or their received indications of data compression capability with the present node's own degree of compression capability. This enables logical decisions to be made to support the maximum degree of compression capability over each link or portion of a link between terminal nodes which define the ends of the overall link, thus improving data transmission by providing the highest degree of supportable compression over the longest path length.

ABSTRACT WORD COUNT: 123

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 920715 A1 Published application (A1with Search Report  
;A2without Search Report)  
Examination: 930113 A1 Date of filing of request for examination:  
921119  
Change: 930811 A1 Representative (change)  
Examination: 950322 A1 Date of despatch of first examination report:  
950207  
Grant: 961002 B1 Granted patent  
Lapse: 970716 B1 Date of lapse of the European patent in a  
Contracting State: DE 970103  
Oppn None: 970924 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1288
CLAIMS B	(English)	EPAB96	1384
CLAIMS B	(German)	EPAB96	1307
CLAIMS B	(French)	EPAB96	1538
SPEC A	(English)	EPABF1	6985

SPEC B	(English)	EPAB96	7113
Total word count	- document A		8273
Total word count	- document B		11342
Total word count	- documents A + B		19615